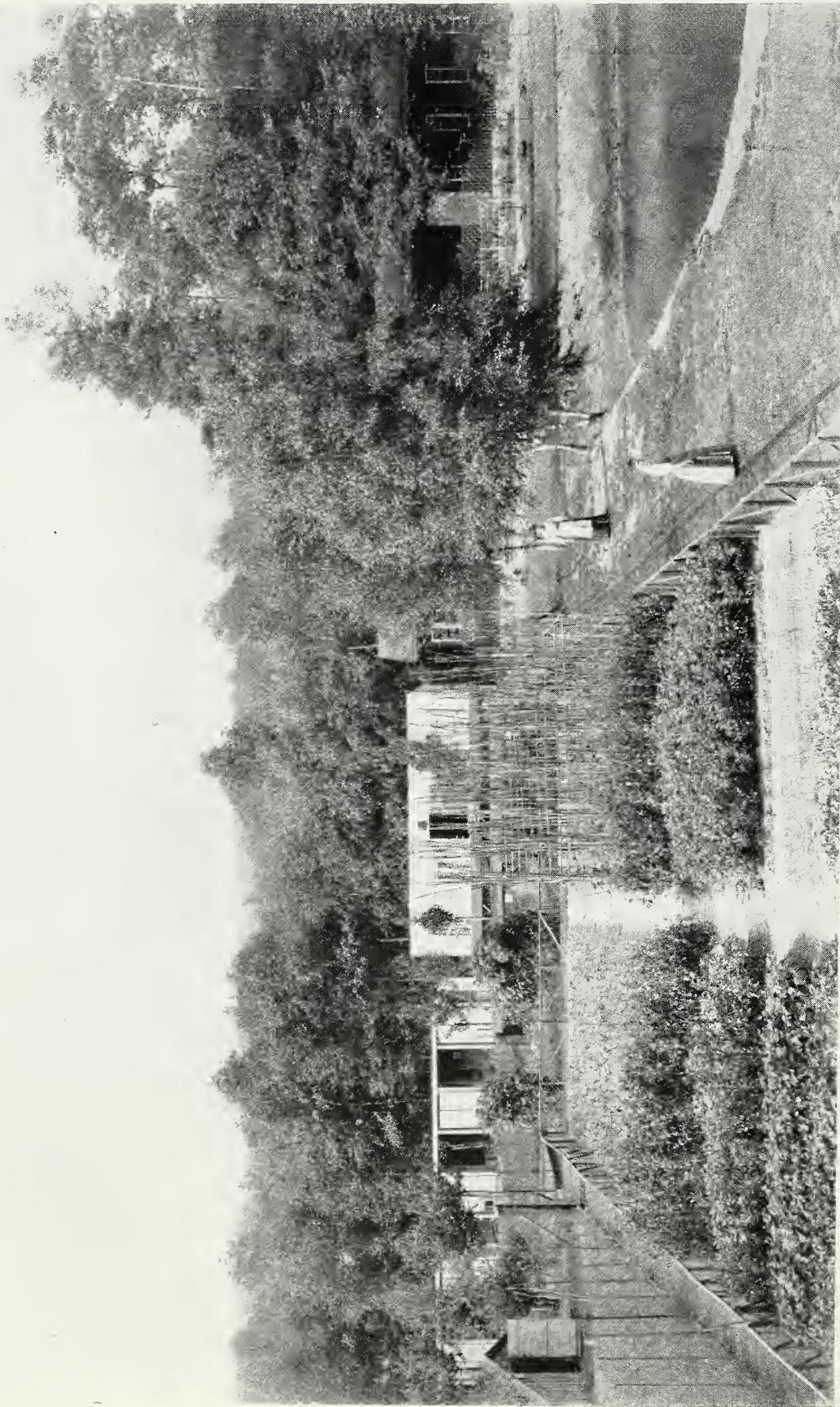


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THE ILLUSTRATED POULTRY RECORD

J.E.



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EDITORIAL NOTICES.

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The Editor will be glad to consider any MSS., photographs, or sketches submitted to him, but they should be accompanied by stamped addressed envelopes for return if unsuitable. In case of loss or injury he cannot hold himself responsible for MSS., photographs, or sketches, and publication in the ILLUSTRATED POULTRY RECORD can alone be taken as evidence of acceptance. The name and address of the owner should be placed on the back of all pictures and MSS. All rights of reproduction and translation are reserved.

The Editor will be glad to hear from readers on any Poultry Topics, and all Queries addressed to the paper will be answered by experts in the several departments. The desire is to help those who are in difficulty regarding the management of their poultry, and accordingly no charge for answering such queries is made.

The Annual Subscription to the ILLUSTRATED POULTRY RECORD at home and abroad is 8s., including postage, except to Canada, in which case it is 7s. Cheques and P.O.O.'s should be made payable to Brown, Dobson, and Co., Limited.

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The utmost care is exercised to exclude all advertisements of a doubtful character. If any reader has substantial grounds for complaint against an advertiser he is requested to communicate at once with the Editor.

The Forthcoming Laying Competitions.

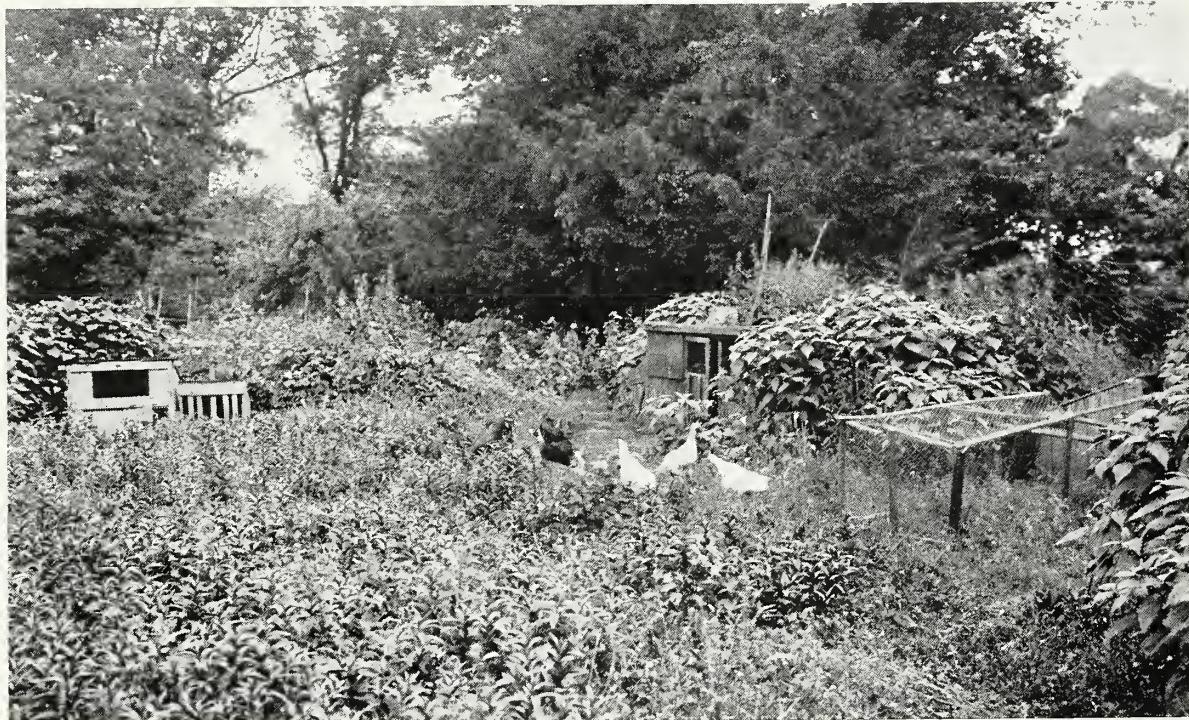
The Utility Poultry Club have arranged to hold two Four Months' Laying Competitions, commencing on October 18 next: one at Bartle, near Preston, under the management and personal supervision of Mr. William Barron, and the other at Grimley, Worcester, under the management and personal supervision of Mr. Geo. Nicholls. Accommodation will be provided for thirty-six pens in the Northern Competition and one hundred pens in the Southern. The birds will be penned on good grass land that has not previously been used for poultry, and in both competitions trap-nests will be used throughout and the record of every bird kept. The awards offered by the Club to the owners of winning pens—those laying the greatest value in eggs—consist of medals, certificates, and cash prizes. Full particulars may be obtained from the Secretary of the Club.

The Management of Competitions.

Without being hypercritical it may be permissible to compare the particulars of housing and management as given in the Utility Poultry Club's schedule of the forthcoming Four Months' Laying Competitions. In both the Northern and the Southern competitions the houses to be used are spoken of as the "open-fronted type," but no mention is made of scratching-shed accommodation—other than such as may possibly be included in the general description. It is, however, mentioned that in the Southern test the afternoon feed of grain and seed will be "thrown in litter," but it may be pointed out that if this is done in the compartment containing the trap-nests, experience has shown that the scratching will most probably interfere with the proper working of

the appliances. In any case, it would have been preferable to state plainly what scratching floor accommodation, if any, will be provided, and whether it will be separated from the space occupied by the trap-nests—or will the litter to be used as scratching material be placed in the open run? The next point is the contrast afforded by the mash feeding in the two competitions—that in the North being characterised by its specific limitation to "bran, pea-meal, biscuit-meal, sharps, and meat" (whether warm or cold is not stated); whilst that in the South includes the possibilities of "some of the following: sharps, ground oats, maize-meal, barley-meal, pea-meal, biscuit-meal, bran (scalded), clover chaff, meat, boiled vegetables (warm)." The comprehen-

their operations to poultry. These clubs are in many cases registered under the Friendly Societies' Act, 1896, and are essentially co-operative. It is found desirable that the area in which they operate shall be limited, so that all the members may know each other, and the cost of management be reduced as low as possible. Each member would pay a premium in accordance with the number and class of poultry kept. In case of disease or death he would necessarily be required to produce the birds for inspection, and would be paid an agreed part of the value. There are many details which would require to be worked out, but a trial might be made of a scheme which could not fail to be of great help to smaller poultry-keepers. There is much to



CHICKENS IN THE "BLACK-CURRANT" RUN ON MISS GALBRAITH'S FARM. [Copyright,
200 Chickens annually are reared to six weeks of age on this run. In addition it produced 60lb. of black currants, three-quarters of a ton of Jerusalem artichokes, and one thousand mint plants last year.

siveness of the latter is more understandable than the severe restriction of the former.

Mutual Insurance.

The publication of a leaflet (No. 221) by the Board of Agriculture and Fisheries, from whom copies can be obtained on application to 4, Whitehall Place, S.W., on "Mutual Insurance of Live Stock," calls attention to the desirability of protection against loss by disease and death. Although this leaflet deals only with larger stock, and does not mention fowls, there is no reason whatever that we can see why clubs should not be formed, especially among small holders, for this purpose, nor why Cow and Pig Clubs should not extend

be done in this direction for all classes of stock. It is questionable whether ordinary insurance companies would find the business profitable, as the expense of inspection to prevent unjustifiable claims would be so great. By a system of mutual insurance, as suggested in this leaflet, that difficulty would be largely overcome.

The Boxted Small Holdings.

The President of the Board of Agriculture did well to give official support to General Booth recently, when the Boxted Small Holdings Scheme was launched, and no one can say the right words on such an occasion better than Lord Carrington. Boxted is four miles from

Colchester, on the higher ground west of that town. Here, by the generosity of the late Mr. George Herring, the Salvation Army has secured 400 acres of good land, which is divided into 67 holdings of five to six acres each. Upon each holding a comfortable and good cottage has been built with six rooms, and the plot divided up so that there will be part fruit and part ordinary crops, and the live stock includes a score of fowls. The greatest care has been taken in the selection of the tenants, who at the end of two years will be able, if they have proved themselves worthy, to take out a lease for 999 years, so that they will become practical owners, subject to an interest rental on the outlay—until the capital is repaid. The whole scheme is on business lines. All depends upon the energy and perseverance of the small holders. But an important feature is that qualified instruction is available, so as to help over the earlier and more difficult stages. Co-operation is being brought into service, both for the purchase of requirements and the sale of produce. If this scheme is successful it could be multiplied a hundred-fold, and would help to alter the whole aspect of our rural life.

Poultry-Keepers and Credit Banks.

A most important announcement has been made by the President of the Board of Agriculture—namely, that the Government intends proposing a scheme for encouraging what are known as Credit Banks, which have proved of the greatest value in Continental countries, more especially among small farmers and allotment holders. In fact, there are many authorities who recognise that without some such provision development on these newer lines will be very slow, if not absolutely checked. To those who desire to increase their poultry and egg-production, but whose capital is limited, such Banks would mean much more rapid extension, enabling them to secure stock, houses, incubators, &c., which might otherwise be beyond their reach. It may be explained that advances are not made for the purchase of land, but for buying appliances, &c., that will be immediately productive, and the conditions laid down are such that the security is unquestionable. We welcome, therefore, most heartily a project which cannot fail to be of great assistance to the poultry industry, more especially among the smaller agriculturists, though not necessarily limited to them.

Scottish Commission to Australia.

Two years ago we recorded the visit of a number of Scottish Agriculturists to Canada, a member of which Commission was our es-

teemed correspondent Mr. A. M. Prain, who contributed some notes on his observations to the *POULTRY RECORD* (Vol. I., page 195, December, 1908; Vol. I., page 241, January, 1909). Previously, similar tours had been made in Denmark and Ireland. Now another but more ambitious Commission has been appointed, and a dozen representative Scotsmen are on the sea heading for Australia, where they should find much to interest and give scope to their energies. Mr. Prain is again a member of the party, and as his special forte is poultry, we may hope once more to have the benefit of his knowledge and experience. That there is much to see at the other side of the globe in poultry matters is unquestionable, for the advance made in this branch has been very great indeed. It will be an advantage for breeders here to see vicariously through British eyes what has only hitherto come to us by Colonial writings. We believe that these tours have been largely due to the initiative of the Secretary for Scotland, and if so, all must congratulate Lord Pentland on his work. Such inter-Imperial visits must be of great value, and help remove that insularity of ideas to which we are prone. Everyone will wish the Commissioners a pleasant journey and safe return. That they will have a hearty welcome goes without saying.

Development Fund.

Announcement has been made that the Development Fund Commissioners are prepared to receive applications for advances and grants, in accordance with the provisions of the Act, in which, as will be remembered, poultry is specially mentioned. The regulations issued indicate that such applications may be made by Government Departments, Public Authorities, Institutions, or Associations not trading for profit. In these is abundance of scope. From what has been already stated, it is evident that there will be no lack of demand, but that the amount available for this purpose could be utilised many times over. Under these circumstances those who do not apply will not obtain, whilst those who do may only receive a moiety of their requirements. We hope that poultry-breeders will see to it that they are not left out in the cold shadow of neglect, but that they obtain adequate recognition and support. It is extremely unlikely that fanciers can expect any help for exhibitions, though there are many ways in which poultry shows might be made of greater value, but the Utility Poultry Club might reasonably expect to obtain a grant enabling it to carry out its laying competitions

on a wider basis, and the National Poultry Organisation Society should receive that financial aid it so much requires, the absence of which has hindered its work. These, however, are only the beginnings. One of the most important requirements is the prosecution of organised and complete experiments of a practical character.

Paying for Quality.

As a result of action on the part of the Kansas State Board of Health, one of the large egg companies has decided that, after July 1 of the current year, all eggs will be bought with "loss off"—by which is meant that every egg will be candled before it is purchased, and all stale or bad eggs will be rejected. The result of this cannot fail to be beneficial. The system of buying all eggs, large and small, new-laid or stale, at a uniform price is not economic, and has an influence which is all against the producers, who have no incentive to the adoption of better methods. They receive no more when taking trouble to gather the eggs frequently, to secure them clean in shell, and to keep them in a cool, sweet place until they are sold than do those

who are careless in every direction. Such a system is to be found where population is sparse and markets are remote, such as in Canada and the United States, but it is general in almost every part of the United Kingdom, and has done more to hinder development than almost anything else. Successful marketing can only be secured by the combined action of everyone concerned, producer and trader alike, to which end carefulness should be rewarded and negligence penalised. One of the most striking results of the work of the National Poultry Organisation Society, in those districts where Collecting Depôts are in operation, is the improvement of quality of eggs marketed, due to the rule that bad eggs are returned, and that those which are second or third rate in size and freshness are paid for at lower rates than the best. Few people have any conception of how much is lost in this way every year. It would be an easy matter to add to the value of eggs produced in the United Kingdom by one shilling per great hundred (120) by the adoption of better methods. *That would mean, without another egg being laid, £820,000 annually added to the returns of poultry-keepers.*



A QUAIN HEN ROOST.

A cart-wheel supports the thatched roof, on the spokes of which the hens roost.

[Copyright.]

THE WHOLE ART OF SHOWING.

By WILFRID H. G. EWART.

IT is always interesting to hear from experienced men the methods which have brought them success in the show-pen, and it is the more valuable because so very few people can really make the most of a show fowl. I do not say it is common to see exhibits really badly put down—that only happens when the engaging novice enters his solitary cockerel or one pure-bred pullet in competition. But there are many big exhibitors in the South of England whose skill in the art of showing cannot compare with that of Northern fanciers. The latter unquestionably possess secrets and they unquestionably possess patience—these, added to ripe experience and long practice, probably account for their superiority.

One cannot boast this private knowledge or ancestral experience; and so it would be useless to describe the whole art of showing in a didactic way. But certainly, from the commoner's standpoint, it should be possible to discover the reason and conclusion of perfect condition in exhibition poultry—appreciating its inestimable value. And, as illustrating this, I have in mind at the moment the case of a perfectly-managed pullet whose run of success at all the great shows was practically uninterrupted. She was, in fact, the best of her breed last year—a Club Show and Palace winner—a bird of excellent class, but actually superior to her competitors only because of perfect training and condition.

If those are vague, puzzling expressions, they are exemplified in the fact that this pullet would stand always in a natural "photographer's" attitude. In profile, with erect head and tail, fine curves and shape; in an oblique attitude, showing great breadth and clear daylight between the legs; or face towards, displaying depth and poise of body—this was always the "picture" specimen, the product of experienced training. The tremendous value of that perfection can be gauged by multiplication of every point. There was the size which appeared doubled because the pullet stood up, stood "broad" and loomed massive, there was the shape which displayed itself because of perfect balance, there was the type which this perfect attitude emphasised—and all collectively produced the effect of ideal quality. That bird was bred in Westmorland, twice sold for a big sum, and now resides in the South of England.

And condition plays its part with training—

it means health. I am not sure of the value of each apart from the other, but I know that the two provide one essential combination. To maintain permanently the health of a frequently-exhibited fowl is, of course, a large factor in the whole art of showing; its accomplishment is purely the result of experience. The brilliance of comb is elusive and so is gloss of feather, but up to a point—and in an artificial way—they can be preserved. What cannot be preserved is the "bloom of youth," the first brilliance of some young bird whose value must be tested then and there. Whether a cockerel or pullet, the supreme development comes, and for a week or so you have incomparable condition; such needs little embellishment, because it is perfectly natural and consequently far superior to artificial aids.

Everybody (every fancier) must know this ideal temporary state, but how many of us possess the judgment to utilise and anticipate it? The common experience is that no entries have been made, and that there has been no training in the show-pen when the cockerel arrives at his first "bloom," or the pullet reaches the stage immediately prior to the commencement of laying. That resplendent form is never regained—or only regained in part when the fowl, emerging from moult, attains again something of the acme of condition. But then, shape may be lacking or proportion or fulness of feather. These belong to youth and, let it be understood, they are at crowning point but once in a bird's career.

So much for the theory and value of the fancier's art; and as to how he may realise its perfection, I cannot tell him, because I do not know. There is individual experience and there is the precept which is often so valuable; one contrives (by degrees) a certain amount of the former, and the latter comes, in a fair measure, as a result of travelling round the shows. In various places and from various men, one picks up a variety of ideas which centralise and form, perhaps, the conjecture that study of the individual fowl temperament is somewhat responsible. This may appear a nonsensical notion, but in training a fowl for exhibition I believe you must discriminate in handling your material. For instance, I would point to the actual case of an old hen whose status in the show-pen depends purely on her humour of the moment. For long she could not be trained to "stand," and although intrinsically an exceptionally high-

class specimen, she would shape in a pen much as one might expect a barndoer hen to shape. She was lazy, she was old, but still whenever this hen consented to display to the judge her great depth and excellent colour, so surely she would win.

Study of that senile stupidity evolved gradually the proper method of preparing her for show, and since then she has won well and often. It was found that she required more fire after washing than most of her kind, that when dry she wanted a good feed, that then she must have a sun bath, and that most particularly she must be dispatched hungry to the show. This treatment had the effect of putting the curious creature in good humour, and the fact of being empty kept her wide awake. So, barring accidents (which do occasionally mar the routine of her existence), she is uniformly successful.

That is what I call the "study of individual temperament" (a grandiloquent phrase), and you see in another phase its applicable value. Take the opposite case of the Leghorn or the Ancona or, much more

rarely, the Orpington, and the Wyandotte, which, because of sheer recklessness, cannot be judged. The whole art of showing is to take that bird in hand, and to win prizes with it. I would do so, not by violence with a judging stick, but by constant careful handling and hand-feeding in an exhibition pen. The bird would be confined for long spells at a time, and at last its condition would be rational and its disposition tame.

This is special training for an exceptional case, and at other times the policy of long indoor training is one I shun. We must consider health, and its direct contributors, surely, are green grass and fresh air. Often I have brought a bird direct from its covered run in a meadow, washed its legs and polished its head, then packed it off to some show. That, where possible, is a desirable practice. But, on the other hand, our experiences at the present time are of long spells with young stock and of patient handling and turning. These are undoubtedly necessary with most breeds if there is to be success at Altrincham, at Hayward's Heath, or at the Dairy.

POULTRY THROUGH THE MICROSCOPE.

II.—REMARKABLE ANATOMICAL FIGURES.

WRITTEN and ILLUSTRATED by JAMES SCOTT.

IT seems to need a long stretch of credibility to connect our homely poultry with ravenous and hideous reptiles, yet we possess effectual evidence of such a relationship in the existence of a fowl's scaly legs; and have, moreover, fossil testimony to support the theory. The ancient two-legged Pterodactyles were practically large flying bird-lizards, having membranous wings like those of bats. They possessed long necks and beaked heads, greatly resembling those of birds. These are believed to be an ancestral form of descendants from a more primitive type, the latter having branched off into many varieties or species during unimaginable periods of time.

It is presumed on substantial foundation that the primeval ancestor of all birds was serpent-like, and that limbs and wings were gradually evolved along one line of descendants, that line dividing again into membranous-winged lizard-birds and feather-scale birds. To follow the matter closely would be too technical—and perhaps too tedious—for these pages, so I will content myself with providing a few comparisons.

Reptiles periodically shed or cast off their scaly skins, either wholly, as the snakes do, or piecemeal, like the toads. This method of renewal allows of better expansion of the flesh while the new and softer scales are growing and hardening. Such a necessity does not exist in the case of mammals, and so on, as their coverings are not so tightly fitted into place. Now, the scales of a fowl's leg periodically fall off, although not everyone who possesses such birds is aware of the fact. The changes occur when moulting of the feathers is in progress. These facts are more significant than they appear to be, because they imply that feathers and scales are substantially similar structures and subject to the same laws as one another. We shall see that this is so.

An ordinary tortoise appears to be as rigidly armoured as most animals, yet by boiling the shell of a dead specimen, the hexagonal scales can be removed as separate items. Some tortoises may be procured in which conical excrescences are substituted for the six-sided scales, while in other kinds there may be

found groups of stiffened hairs, like glued-up brushes. It is presumed that during the course of many ages a bristly covering may have had its fibres arranged into bunches, and



Fig. 1.—A CHICKEN'S TOE (UNDERSIDE) MAGNIFIED.
[Copyright.]

that these were subsequently stiffened and depressed almost flat. Horn, hair, and feathers all contain a glue-like base called keratin, so that they are really modifications of the same substance, and it is not at all a difficult matter for Nature, in time, to soften these parts by body heat and remodel them, according to needs, while they grow. Some authorities have an opposite belief, to the effect that scales were the first things to exist, and that these in time were split up into bristly groups, as though a scale were cut into strips like a fan

or tuft, and had a common root connection with the skin. It was further supposed that as these parts became so divided they obtained individual bases, thus becoming bristles, which in time became changed to hair in some branches. The theory of evolution is indeed a remarkable one, but it is founded on very real evidence and is (to my mind) wholly in accord with Scriptural statements. Such ideas account for a bird having both feathers and scales, although, of course, it is not possible to explain fully how the marvellous modifications happened. The origin of scales was probably due to the wrinkling of skin of creeping reptiles. As such creatures moved along, loose skin would be pushed backwards and



Fig. 2.—A CHICKEN'S TOE (SIDeways) MAGNIFIED.
[Copyright.]

become harder, just as irritated skin on a man's palms gets "corny." The intermediate softer parts would allow one section to overlap another conveniently, and the tendency to this

procedure would be transmitted to offspring, until it was emphasised as a confirmed trait.

Leaving theories aside, we can obtain much strange enlightenment by magnifying various portions of a chicken's—or adult fowl's—legs. I have selected, as being one of the least observed areas, the underside of the first joint belonging to one of the bigger toes—a piece of matter about $\frac{1}{4}$ in. in length. This is shown in Fig. 1. The scales are arranged in a strikingly neat and picturesque style, and are well-rounded and pad-like. It is easy to understand how these resist shocks, as the bird treads on sharp-angled, gritty ground, or serve as a series of suckers while they grasp a perch. The upper view of the scales is entirely different from these lower ones, as only a few comparatively large and bold specimens are in that position. But if the toe is slowly

They burrow their way underneath these scales, which get elevated in consequence, while a chalky substance envelops them, as well as crusts that form as shelters for continued increase of the pests. For treatment of scaly leg it is advisable gently to remove the crusts, preventing bleeding meantime, and apply a mixture consisting of one part of creosote to twenty parts of lard, after the legs have been bathed in hot water. Flowers of sulphur and vaseline in equal amounts is also an excellent ointment. Some days after treatment such limbs should be washed with soap and warm water.

Another part of a chicken—and of a mature fowl, for that matter—is the eye, which is delineated in Fig. 3. While there are no true eyelids—that is to say, of the kind that we associate with this term—their positions are

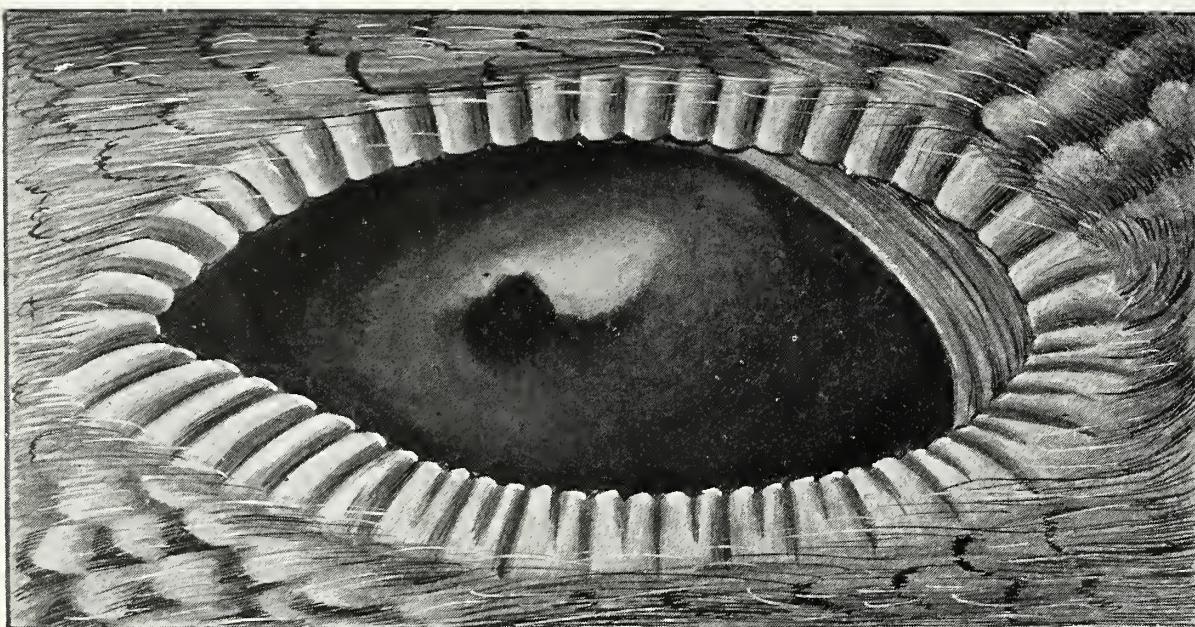


Fig. 3.—MAGNIFIED EYE OF CHICKEN, SHOWING ITS CURIOUS EYELIDS AND ITS THIRD EYELID, OR NICTATING MEMBRANE.

[Copyright.]

turned over, it will be seen that although the contrast between those above and their companions below is excessive, there is a gradual transition from one shape to another, as in Fig. 2. This is quite in accordance with the usual methods of Nature—apparent extremes are simple alterations. I noticed particularly that the dimensions of these scales differed so strangely that only two of a size—the pairs—were to be found. They graduated so as to fit symmetrically between the spaces formed by the contact of others.

It is in the interstices between the scales, or beneath the edges of those which overlap, that microscopic mites first gain an entrance and secure a lodging ready to multiply to the scourge known as scaly leg. The principal insect in this malady is *Sarcoptes mutans*.

occupied by plump, curiously divided lengths of flesh, which are by no means unattractive in aspect. For cleaning the eye, and thereby removing specks of dust and so on that constantly get upon its moist surface, all birds possess what is known as a nictating membrane. This is a thin fold of inner skin that clings closely into position, and when not in use may be found on close inspection in one corner, almost concealed. This is flicked across the surface of the organ with such extreme swiftness as to escape detection under ordinary circumstances, and it then resembles a semi-transparent layer that has been drawn obliquely across for the purpose mentioned.

It is a curious and informative fact in connection with evolution that a crocodile's egg is about the size of that of an ordinary fowl.

TURKEY - FARMING.

By EDWARD BROWN, F.L.S.

TWO facts stand out with regard to turkey-breeding or -farming which should be kept prominently in view by everyone contemplating the taking-up of this branch of the poultry industry. First, so far as experience has gone in this and other countries, it is not suitable for what is known as intensive poultry-keeping, but is essentially a farmer's business, and a larger farmer's at that; and, secondly, the turkey needs plenty of space to live and grow, and must not be overcrowded. No one believes more in small holdings than does the writer, regarding them as essential alike for the well-being of the nation and the prosperity of our rural communities, but small holdings will not do much towards increased turkey-breeding, even though on fair-sized farms there is no reason why a small flock of turkeys should not be raised annually. It is rather a pursuit for larger farmers upon the better class of land, with variety of conditions and the ability to give that fresh pasture year by year which is necessary for the well-being of the birds. Such can only be accomplished where space is abundant. I have seen several attempts on the part of what we now term small holders—that is, occupiers of fifty acres and less—to extend their breeding of turkeys, in some cases with disastrous results, due to want of recognition of the relationship between the number of turkeys kept and the area of land available for them. Later it will be shown how the danger can be avoided, for that it can be avoided is unquestionable.

TURKEYS IN WOODLANDS.

From time to time articles have appeared, advocating that the right method of turkey-breeding is for the birds to live semi-wild in woodlands. That they can be bred successfully in this manner is unquestionable, that the birds will be hardy is equally so, that they will be easier to rear than under other conditions may also be accepted, and that the flavour of the flesh on these birds will be very fine indeed everyone will admit. It has been proved abundantly by Sir Walter Gilbey, Bart., in Essex, by Mr. Percy Percival, in Somerset, and by others in this country. Nearly thirty years ago Count Brenner introduced turkeys into his forests in Austria, and in five years more than seventy cock birds were shot in one season. Count Brenner's example was followed by others. But this is the privilege of wealthy men, to

whom the relation of cost to results is a matter of little moment so long as they secure the desired sport. I should like to learn the cost of these wood turkeys, including their share of the rental, keepers, &c. If such were the only way that turkeys could be raised successfully, then they would be of no use commercially to the farmers of any country, who must be able to keep them where they are, and at a cost which will leave adequate reward for the labour involved and money expended. And a further point is that the number of birds which could be reared per 100 acres would be very small indeed. With our great and growing populations, year by year encroaching on the fields and pastures available for food-production, we need to increase the ratio of production, not decrease it. As well might it be suggested that all stock must live as do the wild White Cattle of Chillingham, as think that turkey-raising should be restricted to semi-wild conditions.

DANGERS OF OVERCROWDING.

An American writer, whose name I cannot trace, has stated that "The turkey is naturally a wanderer, a drifter, and a tramp," which contains a large measure of truth. The explanation why this species is regarded as specially suited for larger farms is that they must have abundance of space. It is for this reason that the recommendation has been made that smaller farmers and holders should not attempt turkey-breeding. Such is justified by experience in many lands. Numerous instances have been recorded where failure has arisen through ignoring what may be regarded as a sound maxim. One of the saddest sights I have ever seen in connection with poultry-breeding was in the border sections of Connecticut and Rhode Island during my visit to America in 1906. Formerly vast quantities of turkeys were raised in that district, but, as stated in my "Report on the Poultry Industry in America" (pp. 101-102) :

During the last fifteen years turkey-breeders, more especially in the Eastern States, have found their operations curtailed and their profit annihilated by disease among the birds. To such an extent has this developed that in some districts the industry has been destroyed. In others great reductions have taken place, and there are many who at one time bred turkeys to a considerable extent, but have had to seek other sources of income. So serious is the spread of disease that it is generally admitted

this important branch of poultry-keeping is in danger of absolute destruction in many districts.

No other conclusion could be arrived at than that. Whatever the pathology of blackhead in turkeys may be, the root-cause was keeping them on the same ground year by year, thus exceeding the carrying capacity of the soil. These birds appear to be specially sensitive to tainted soil, which can only be avoided by limitation of numbers and provision of fresh and sweet runs. It is not suggested that a small farmer might not raise a very few

tendency is for certain classes of stock, both wild and domesticated, to become scarcer. That is so with geese, due to the smaller area of common land, equally in this and other countries. As, therefore, farms become smaller in area, which is the present tendency, in order to settle more people upon the land, and as a reaction from the former policy of concentration, a possible result is decline in the home-supply of turkeys. Consequently there is all the more need why farmers whose conditions are favourable should take up this branch of poultry-keeping. That many times as many



A CONSIGNMENT OF EAST ANGLIAN TURKEYS.

[Copyright.]

turkeys, but that could hardly be on a commercial scale. It is better to leave the business in the hands of larger men. A most important factor is natural food, reducing the cost of rearing and maintaining the health. As the ground is denuded of lower forms of life, so the difficulties are increased. It is stated that careful experiments in California have shown the turkey to be a great grasshopper exterminator, and that one bird will eat as many as three hundred of these insects in a day.

COLONISATION BY TURKEYS.

In all older and more settled countries the

could be bred as is now the case appears to be undoubtedly. There is, however, another direction in which numbers might be increased. The Agricultural Returns tell us that there are nearly twenty-four million acres of uncultivated land in Great Britain, a portion of which would be suitable for turkey-raising, as there the birds would have plenty of space, and could be kept without fear of contaminated soil. In this way a beginning might be made in the colonisation of our own country, and in reclaiming to the service of man land which is more or less derelict. For instance, on the slate areas of North Wales more turkeys might

be reared than are now found in the whole of the Principality. Upon the question of geological formation in regard to its suitability for various branches of poultry-keeping, there is much to be learnt. Observations in this direction offer a wide field of inquiry. I am inclined to the view that dry soil over stone, preferably slate, met with in hilly districts, is specially suited to turkeys, which is supported by what is met with in Belgium, Servia, and America. I should like to see someone test turkey-farming on open lands on practical lines. Probably the birds would have to be taken elsewhere for fattening, but that would need to be determined in the light of further experience.

SOIL INFLUENCES.

As already stated in connection with ground taint, turkeys are very sensitive, which is also true as to the class of soil. Upon this point the views of Mr. Gage Harper, probably the most successful breeder in the United Kingdom, as given by him on the *Live Stock Journal Almanac* some years ago, may be quoted with advantage. He stated :

Any farmer who intends going in for turkey-raising should at the outset consider the nature of the soil upon his farm, as this will have a great influence upon its success. It has been found universally that this race of birds does not thrive well upon heavy clay land, nor upon the lower-lying damp fields, whilst there are places in narrow valleys where the autumn and spring fogs hang, and these are not favourable to turkeys. The soil upon my own farm is varied, and I am able to use the different classes of soil according to the season of the year. But, as turkeys require a large amount of natural food, I should not care for very light or sandy soils. Turkeys do best upon the better class of ground, and it is for this reason we find many of the finest specimens in the Eastern Counties (of England), where the land is rich in quality without being too heavy. It is most desirable during the laying season that hens should have free range over a good rich pasture, and that they are fairly fed, but must not be too fat. When the growing birds are a few weeks old they can be placed on heavier land, so long as it is dry. I have reared quite as good turkeys on an upland pasture, which is rather heavy in nature, as on the lighter loams. But during a wet season this would be unsuitable.

In support of what is here stated, a practical American writer recommends a "hilly, rocky slope" facing South, where the soil would naturally be light in nature. And a correspondent of *Poultry Husbandry* says :

There is no question but that turkey-raising is in its perfection where the birds are kept away from all other fowls and have a wide and a free range. We have turkey ranches in the Adirondacks where hundreds are raised each season. The small poult are kept near the house, and when about the size of pheasants are turned into the big range, which is a fenced area of some five hundred acres containing woodland.

THE LABOUR QUESTION.

Many farmers are indisposed to take up the breeding of turkeys by reason of the common impression that these birds are delicate and difficult to rear; they fear the trouble and labour of attending to them. That there is some measure of justification for such an opinion appears to be unquestionable. Probably, however, the cause is due to want of appreciation of the fact that the turkey requires conditions which approximate more nearly to those found in a state of Nature than any other species of poultry, and that they cannot be kept successfully upon restricted areas, or where the land is at all tainted. A further point is probably that delicacy of constitution is largely due to the use of immature stock for breeding. Except, however, where the environment is unfavourable, experience has shown that the turkey, after the infantile stage, is as vigorous as any other poultry, and does not need much more in the way of attention, save that on an arable farm it is necessary to prevent the birds wandering over growing crops, otherwise by the very weight of their bodies they will do a large amount of damage, and therefore an attendant is necessary to herd them. Upon pasture or open lands this presents no difficulty, but even thereon it is usually found desirable to have someone to look after them. The period when the labour problem presents itself is during the first ten to twelve weeks. Then they must have attention and plenty of it. Neglect is fatal. But, given that, the main difficulties should be surmounted. Breeders at home and abroad have abundantly proved that the turkey needs no more attention than any other classes of stock, and, where time and skill are devoted to it, it is most profitable to the farmers, many of whom in the Eastern Counties of England pay their year's rent by the turkeys they raise. A ton of turkeys is by no means an uncommon sale in December for the Norfolk, Suffolk, and Cambridgeshire farmers, the cash value of which for first-rate birds will often reach £120.

WHO'S WHO IN THE POULTRY WORLD.

MRS. A. TREVOR-WILLIAMS.

IN our issue of December, 1909, there appeared an article descriptive of the Clock House Poultry Farm, Byfleet, of which Mrs. Trevor-Williams is the lessee. The farm, which consists of about four acres of pasture, is part of a general stock-farm of nearly two hundred acres owned by Mr. Trevor-Williams, and was started about five



MRS. TREVOR-WILLIAMS.

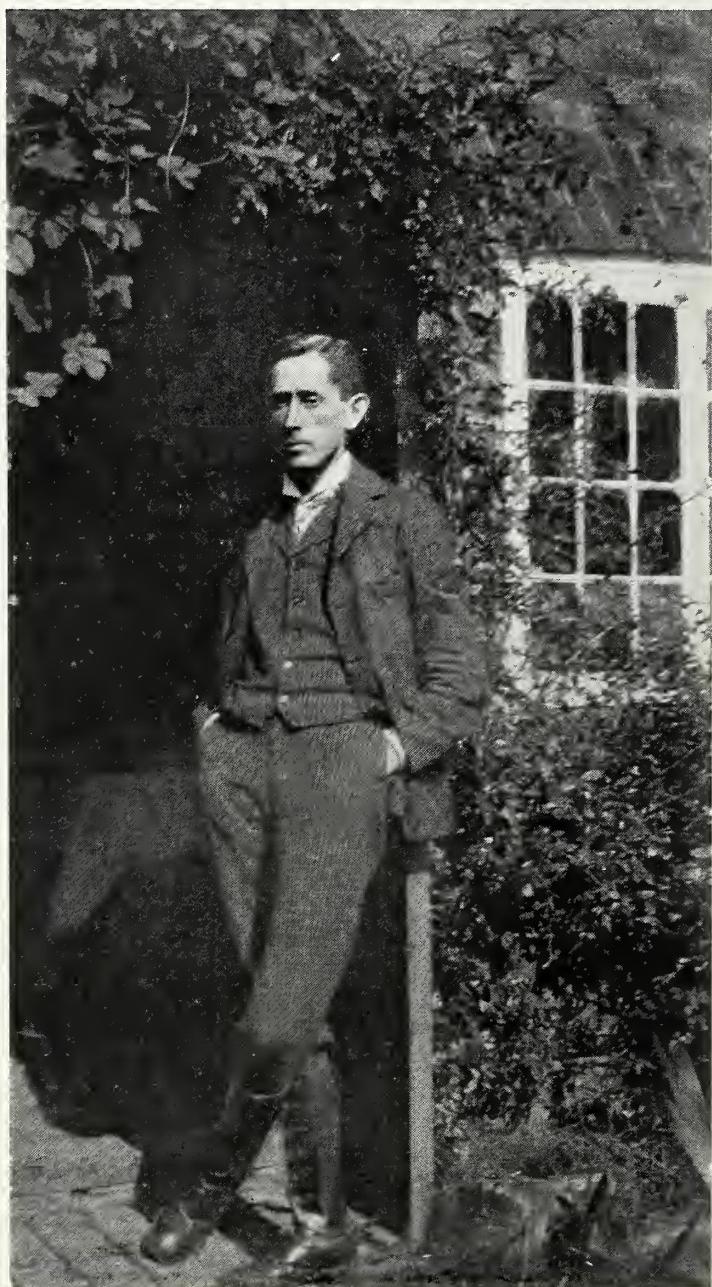
years ago with the object of producing utility poultry and eggs. Since then, however, the desire to improve her stock has led Mrs. Trevor-Williams to specialise in certain breeds, notably White Wyandottes and White Orpingtons. With these she has had many successes at important shows.

At the same time, she has never neglected the utility side of the business, and recently there have been important developments in this direction. Since our visit, for instance, she has set up a fattening establishment for retail and wholesale marketing—probably the only one of the kind in the district. Mrs. Trevor-Williams is a very keen poultry-keeper, and pays the closest personal attention both to the exhibition and the production sides, for particulars of which our readers may be referred to our last December number.

MR. J. W. HURST.

MR. HURST, who has been associated with this journal from the beginning, is one of the best known, and one may add the most finished, of living writers on industrial poultry-keeping. His experience as a practical poultry-keeper began in the eighties, and was developed in the district where he still resides—viz., the rearing and fattening zone of Sussex. At an early date he began to contribute articles on poultry and other country topics to the agricultural and general London and provincial Press, and now devotes his whole time to writing for the better-class weeklies and dailies.

Although Mr. Hurst's journalistic engagements occupy most of his time, he has also written



MR. J. W. HURST.



DR. PAUL TRUBENBACH.



DR. TRUBENBACH'S POULTRY-YARD AT CHEMNITZ.

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a brochure on "Sussex Fowls and the Chicken Fattening Industry," which was published concurrently with the standardisation of the Sussex breed; has contributed largely to the "Encyclopædia of Poultry," and this year issued, through Messrs. Rebman, a work entitled "Successful Poultry Production," recently reviewed in these columns. A lighter effort was a volume in Messrs. Black's "Animal Autobiographies" entitled "The Life Story of a Fowl"—an excellent book for children, which was a revelation to those who, not knowing its author personally, had not suspected the existence of this attractive phase of his talent.

DR. PAUL TRUBENBACH.

DR. TRUBENBACH, of Chemnitz, Germany, may be said to have come of a family of aviculturists. For forty years his father has been one of the largest breeders and fanciers in Germany, and Dr. Trubenbach himself started keeping pigeons when he was only ten years old. Brought up in a pleasant country house with a large garden in the Chemnitz neighbourhood, he had plenty of opportunity for developing his hobby on practical lines, and it is not surprising that he was an expert at an age when most men have not yet entered upon a serious study. When fourteen years old, he was engaged to write articles for a German paper. At the age of seventeen he was judging poultry, for the first time, at a local show; and since then not a year has passed without his officiating as judge at shows in Germany and elsewhere. The pigeon and poultry breeds in which he is chiefly interested to-day are Blue African and Chinese Owls, and Black Rosecombs and Black Hamburgs.

A year ago Dr. Trubenbach founded *Geflügel-Welt*, a paper which, under his able editorship, already ranks high as an authority on avicultural matters, and is steadily increasing its prestige among fanciers. Want of time has temporarily put a stop to his poultry-breeding, though he still keeps some of his old pets of the pigeon world, and "shows" once or twice yearly, generally with conspicuous success. He is known to many English fanciers, having visited this country frequently during his earlier career as correspondent for the German Press.

MICHAELMAS GEESE.

By J. W. HURST.

I HAVE just been reading Sir Walter Gilbey's recently published "Farm Stock 100 Years Ago," and have naturally paid particu'lar attention to the chapter devoted to poultry. The contrast between the state of the industry then and now, and the relative economic positions of the different branches of production, is sufficiently indicated in one sentence—"geese were he'd the most profitable kind of poultry"! Then a single person would keep as many as 1,000 stock birds and rear as many as 7,000 goslings; then—so it is said—over a thousand persons made their living out of geese on the fenlands; then there was a Nottingham Goose Fair; and—earlier still (for he wrote it in 1722)—Daniel Defoe records the fact that in one season, from August to October, as many as 300 droves of from 500 to 1,000 birds each would cross Stratford Bridge on their way to London. Yet another witness tells how, in 1793, a single drove of over 9,000 geese passed through Chelmsford! But enough of the glories that have departed. Never will the like be seen in this or any succeeding generation.

Nowadays the tenant farmer's interest in Michaelmas is mainly confined to the fact that it is one of the periods for the payment of rent, in regard to which necessity he does not place much reliance upon the profitableness of geese. Yet, even at Michaelmas, geese may be profitable stock, although in smaller proportion than in the times before our day. No longer is the goose the bird of universal choice at the time of the autumn Quarter Day, but there remains a very respectable demand among those who observe old customs—and others who are actuated by gastronomic rather than by sentimental reasons. It is, perhaps, easy to understand why the turkey has largely ousted the goose from the position it once held in the end-of-the-year markets, but at Michaelmas there has been no such decided replacement of one description of fowl by another, and the only apparent explanation of the decadence of the goose as a distinctive Michaelmas dish is the unaccountable change of taste that has taken place in the public palate. Although I have said that this is unaccountable, second thoughts suggest that it may, at any rate in part, be due to the altered conditions of life to which such large numbers of the population have become subject. When I was engaged in the strenuous occupation of practical farming there was a craving for fat bacon, the very memory of which is almost nauseous in days spent in the closer application at the desk. What is true in the case of an individual may be equally true of a people, at any rate in this connection, and the decreased taste for the oleaginous goose may bear some relation to the changed conditions of life. However that may be, it is an undeniable fact that most people now prefer the "green" goose to the fattened bird of larger proportions and greater age.

For many years I have tabulated the market quotations for the various descriptions of poultry produce, making weekly and monthly averages and otherwise juggling with the figures to prove or disprove facts, as the case may be. It is, of course, commonly understood that statistics may be made to do anything relative to proof or disproof;

but the following may be taken as the boiled-down results of the accumulated quotations of several years, the monthly averages having been bulked and fresh inclusive averages struck for the whole series.

The following figures will therefore sufficiently show the relative marketable *average* values of geese (including goslings) at the different seasons (and it must be remembered that the poulters seasons are nominally: geese, October to March; goslings, April to October): January, 6s. 6d.; February, 7s.; March, 8s.; April, 7s.; May, 5s. 9d.; June, 5s.; July, 5s.; August, 5s.; September, 6s.; October, 5s. 6d.; November, 5s. 9d.; December, 7s. The demand and supply for geese or goslings, although—according to quotations—a continuous affair, is subject to considerable fluctuation, and the trade is largely shared by foreign birds—as in January. Very few English birds are available in February, when the hatching season commences. Birds sufficiently forward for marketing at the end of March are exceptional, hence the high level of values. Although the gosling season nominally begins in April, the trade is comparatively unimportant, and the supply available in May is seldom in danger of outweighing the demand, at any rate, at the commencement. The increasing supply of June usually coincides with a slackening demand, but spasmodic improvements are often experienced in July, whilst the withholding of a proportion for Michaelmas tends to relieve the market during August. Throughout September goslings maintain a fair value, and the reservation for the end of the month often causes a fairly good market at the beginning. October is generally a month of declining sales at relatively unremunerative rates. In November the producer has Christmas in view, and small supplies about equal the demand. In December prices are good for the moderate numbers usually offered early in the month, and although in the Christmas market values may jump, there is always an element of uncertainty. All this is from the point of view of the producer, who sees the London market from a distance, and finds that the provincial markets make no serious or general demand for this description of his produce until September—the older character of the demand still lingering in the country, a fact which perhaps tends to confirm the suggested influence of surroundings and manner of life upon the palate.

In the list of requirements in thirty-two provincial markets, as set forth in the *Journal* of the Board of Agriculture for February, 1908, in only one instance is an earlier demand than September mentioned—August being given as the commencement of the season in the solitary exception to the general rule.

Within the limits indicated it remains true that the Michaelmas goose may be a reasonably profitable bird, if reared suitably and marketed with discretion. There are plenty of people who hold the opinion that geese are at their best just after running on the harvest stubble. A few goslings turned into a considerable extent of stubble will in many cases require no extra feeding, but a large flock on a few acres will not sufficiently improve in condition without proportionate hand-feeding. If stubbles are not available, the birds may be allowed to continue on grass, the decreased nutritive value of the herbage at this season being compensated for by improving the character of the supplied food. In the old days when this depart-

ment of the poultry industry was flourishing, to an extent that we can scarcely understand in the light of modern experience, when any special treatment was desirable the birds were very commonly fattened for market on oats and water, boiled carrots and potatoes; the fattening of geese being as distinct a branch of the industry as the fattening of chickens is now, but the work of the fattener has declined in correspondence with that of the breeder and rearer. The use of a variety of meals is advocated by present-day feeders for the purpose of preparing birds for Michaelmas, but (apart from the preferable stubbling) when running the birds on meadows, I have found nothing better than a mixture of Sussex ground oats and sharps for feeding in the

LADY POULTRY-KEEPERS IN ABERDEEN AND NEIGHBOURHOOD.

By W. KEYS.

IN town and country throughout the North-East of Scotland, poultry are receiving a large measure of intelligent and devoted attention. Keen interest is being taken to procure prolific strains and to improve methods of housing, feeding, and general management. Pure breeds are replacing the mongrel, and high-laying strains are eagerly desired and give promise of becoming still more so. White Wyandottes, White Leghorns, and Buff Orpingtons are favourites, as is evident from their numbers,



A CORNER OF THE MISSES BURNETT'S POULTRY-YARD, GLAMIS COTTAGE, ABERDEEN, [Copyright.
showing latest poultry-house, covered run, and trap-nests.

early morning, the only other supplied food consisting of a suitable allowance of sound grain at night.

It is the method of some to feed the birds liberally twice daily on good sound oats, allowing them as much grain as they will eat at a meal, but in any case during the finishing month liberty should be to some extent curtailed and the birds kept off the pond—but the supply of drinking water in troughs and of suitable grit must be adequate to the requirements. Killing by dislocation of the neck is preferable to the use of the knife.

and so also are Black Minorcas, Brown Leghorns, Barred Rocks, and White Orpingtons. It says much for the good qualities of the Dorking that it holds its own. The Silver-Grey variety certainly does.

A brief note on four typical poultry-yards recently visited will give readers an indication of what is being done. That they are above the average is frankly admitted, but many are working up to them, and they as yet have not reached their highest. The best in any strain of fowls requires years to produce and establish. Whilst the natural home of the domestic fowl must ever be

the country, enthusiasts have proved the excellence to which fowls may be cultivated even in the back-garden of the town or city.

Our first poultry-yard is a city one, owned by the Misses Burnett, Glamis Cottage, Aberdeen. One sister, Miss Annie, has special regard for utility qualities, and she has succeeded in producing some hens that have excelled in the number and size of their eggs. Her best has been produced by a series of crosses between White Orpingtons, White Minorcas, and White Leghorns of high-laying qualities. This particular hen was intended to be the founder of a special race, but the intention was thwarted, as her eggs failed to produce chicks.

Miss Grace Burnett has much in common with her sister. From childhood these sisters have been poultry-keepers, and they have at one time or other bred almost every variety. Silver Dorkings were for some years their speciality, and these are still regarded with much favour. Black Minorcas and Brown Leghorns are the varieties now chiefly cultivated. They are proving in every way suitable for the amenities of the town, and the Leghorns, in particular, are a fine combination of the exhibition and the utility. In 1908 Miss Grace was first and second for Brown Leghorns at the Highland Show in Aberdeen, and she repeated her success at the Royal Northern Spring Show, where her winning hen carried off the Poultry Club Breed Cup and the Scottish Leghorn Club Special.

The Misses Burnett's poultry-yard is suitably provided with a number of detached houses, each of which is provided with a covered run. They have recently made additions in housing, their latest being thoroughly up-to-date and fitted with

inclination she is admirably adapted to fill creditably. Whilst the present condition of this poultry-yard has much to commend it, its limit of excellence is not yet reached. Recent extensions and the system of trap-nesting already initiated will enable the Misses Burnett to develop both the utility and exhibition sides of their poultry-keeping.

Our second poultry-yard is located on the landward side of the city boundary. It is owned by a lady whose immediate aim is pleasant relaxation in the intervals of a busy life. It is intended to pay its way and leave a credit balance, and with this in view strict account is kept of income and expenditure.

Her earliest poultry-houses were the fashionable ones of a few years ago. They were low, dark, close, and were accounted "cosy." Most of these have been heightened, brightened, and thoroughly ventilated. The mongrels have wholly disappeared, and their place is taken by good strains of Brown Leghorns, White Leghorns, White Wyandottes, White Orpingtons, and both Red and Light Sussex.

The varieties kept at present are too numerous, and Miss Peter's intention is to test practically which are the most suitable, and in future to limit her varieties to the two that give best results. For this purpose she has acquired trap-nests, preparatory to the testing of the laying qualities of the present season's pullets, and to clearing off those whose results are disappointing.

The stock having outgrown their accommodation, part of an adjoining field has been rented and wired off into separate runs to admit the separation of the sexes and the grouping of the chickens according to age or size. A new poultry-house for



MISS MILNE'S POULTRY PLANT.

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trap-nests. Three of the most recent designs in trap-nests are to be seen in this yard. The sanitary condition of houses, nests, and runs is carefully attended to, and frequent use is made of a hand-spray, by means of which creosote is applied freely.

Miss Grace Burnett is secretary of the Scottish Leghorn Club, a position that by training and

training exhibition birds has been added. Altogether this is a poultry-yard both interesting and promising, and when the changes in progress are completed, both its utility and exhibition sides should bear good fruit. The production of superior laying strains is Miss Peter's ambition, and she has got excellent foundation stock as regards White Wyandottes, as all her season's crop of Wyandotte

chickens have been bred from tested layers. The parent birds are the pick of those that were trap-nested last year in the experiment conducted for the Governors of the North of Scotland College of Agriculture.

Our third poultry-yard adjoins Milltimber Station on the Deeside Railway. It is beautifully situated, and commands a fine view of the lower Deeside valley, stretching eastwards to the sea and westwards to the outriders of the Grampians. The poultry are in part kept within the grounds and in part in a field adjoining. Shrubs have been profusely planted, for use and ornament. As yet, however, they are insufficiently grown to supply shade from summer's sun or shelter from the winter's storms that sometimes sweep the valley. Poultry-houses are nicely distributed and indicate suitability in all points, except such as is necessary to secure warmth and freedom from draught in winter. In preparation for next winter, Miss Milne is getting the ends and back of her houses covered with felt.

This poultry-yard is in its infancy, and whilst contributing to the health and pleasure of its owner, it is conducted on strictly business lines and a profitable return is contemplated. Miss Milne is qualified as an instructress in poultry-keeping. She received her training at Theale in conjunction with University College, Reading. Her trim, well-conducted little poultry-farm should contribute an answer to the question so often asked, "Does poultry-keeping pay?" The manner in which it is conducted should serve as an object-lesson locally, and this particularly at a time when there is a general desire for fullest knowledge, and there is no one too old to learn.

The breeds of poultry are White Wyandottes and White Leghorns, and these are strictly of utility strains. A beginning also has been made in hatching and rearing ducks and turkeys. Both hatching and rearing are done artificially and also naturally. Every necessary equipment is in evidence, and there is nothing superfluous.

Two former numbers of the ILLUSTRATED POULTRY RECORD have given readers interesting contributions from the pen of Miss M. E. Macqueen, Fae-me-well. Hers is our next poultry-yard. At the time the members of the poultry-yard were committed to her keeping they consisted of nondescripts of unknown age. These have disappeared, and White Wyandottes have replaced them. The present stock are quite in keeping with the amenities of their range and surroundings. Few are in so favoured a position to improve both useful and ornamental qualities, for the reason that chicken supplies for the household provide ready means of clearing off those lacking in the qualities desired.

Miss Macqueen's poultry-yard is a model in the manner in which everything is kept, fowls included. The adult stock are divided into three separate flocks. In one flock note is being kept of the number of their eggs in this, their second, laying year. The second flock consists of nine pullets, the pick of last season's breeding. A record is being kept of the number of their eggs for the current year, and the result so far is highly satisfactory. The third flock includes the remaining adult stock, and numbers somewhat over twenty. The chickens are also run in separate groups.

In selecting special birds and noting their ages, Miss Macqueen uses coloured celluloid rings; the

general use of these or similar rings is much to be commended. In the matter of hatching and rearing, both natural and artificial methods are adopted at Fae-me-well. The "wooden" hen is requisitioned in the early season and dispensed with when broodies become numerous. By allowing hens to sit and mother a flock of chicks in summer, it is thought that they will give a better egg return in the following winter, and Miss Macqueen will be able to add a contribution to present knowledge on this matter.

In the feeding of chickens method and change of menu are strictly observed, and in apportioning mixtures quantities are carefully weighed or measured. Guess-work finds no place where the exact is attainable. Poultry-houses are high and roomy, and covered runs are attached.

Miss Macqueen has favoured me with the number of her poultry in detail, young and old, as at June 1, 1909, and at June 1, 1910. At the latter date they consisted of 38 hens, 2 cocks, 85 chickens, and 9 ducklings—a total practically the same as at the beginning of the year. The following statement of receipts and expenditure should prove interesting and encouraging:

Receipts for the year	£49 5s. 2d.
Expenditure	£15 10s. 3½d.
Excess of receipts over expenditure	£33 14s. 10½d.

The number of eggs for the year was 5,874. The number of hens kept varied from 29 to 48. Assuming the average for the year to be 39, then the average number of eggs per hen for the year was 150.6. Two reasons may be given for the proportionately large profit. During the hatching season Miss Macqueen had a demand for eggs for setting, and eggs thus sold realised up to five shillings a dozen. The other reason for abnormal profits arises out of strict economy in feeding.

The moral that this poultry-yard points is the advantage to be found in selecting one variety suitable for the purpose in view, and, having done this from the best available source, selecting the breeding stock year by year and breeding only from the choicest layers. This must be followed up by what is best in housing, feeding, and management.

A PLEA FOR GROWING TESTS

By W. M. ELKINGTON.

THE doctrine of strain has been preached for so long in connection with egg-production, and with such excellent results, that one would like to see it applied to the table branch of the industry. There can be no doubt that laying competitions have done a great amount of good in demonstrating the importance of strain, and are in a large measure responsible for the creation of the business of breeding pedigree layers and for interesting the general body of the poultry-keeping public in laying strains. Nowadays it is the rule, and not the exception, for utilitarians to make a feature of strain in connection with egg-production, but apparently the desirability of extending the principle to the table branch has been overlooked, for we seldom hear of a quick-growing strain, or a fine-boned, ready-fattening strain. We have a few breeds and crosses that are generally considered better than

others for producing table-chicken ; but there is no general movement to create and improve economical and profitable strains, as there is in the laying business. And why? Simply because the public have never been sufficiently interested. Salesmen and fattening specialists will tell you there is ample room for improvement in the character of British table-poultry. The latter frequently complain of the lack of suitable material, and one has only to go through the markets in London or any large provincial town to realise the opportunities that are wasted in producing chickens of an inferior and unprofitable character. This branch of the industry needs a fillip. It requires something to call attention to the mistaken policy of producing unprofitable chickens, to demonstrate the importance of strain and method in breeding table-fowls, and to encourage the public to take up this subject with the enthusiasm they have put into the production of laying strains.

And how can this important work be satisfactorily carried out? Some day, when we have a Government Poultry Station, elaborate experiments may be undertaken in order to demonstrate the superiority of certain breeds and certain methods, but that alone will not be sufficient to attract public interest and concentrate it upon the improvement of table strains. Experiments and demonstrations alone would never have secured for the production of pedigree laying strains the widespread popularity they now enjoy. The laying competitions have succeeded so well because the competitive element has attracted general attention and encouraged individual effort. That is why I urge the desirability of establishing competitions for growing table-chickens, believing it to be the best way to encourage the public to take an interest in this branch, and to provide some useful lessons for general consumption.

The idea has already been so favourably considered by a number of gentlemen who are closely connected with the table-poultry industry that I believe it to be only a question of time before we shall all be interesting ourselves in the improvement of table strains as the result of a competition which will demonstrate, among other things, that some strains grow and fatten much more satisfactorily than others and can be made to produce bigger profits. Doubtless there are already a number of breeders possessing quick-growing strains, who would readily support the movement in order to demonstrate the superiority of their own stock, since it is obvious that considerable advantage would accrue to them if, as seems pretty certain, the public learned their lesson and realised the importance of securing their stock from good strains. The actual conditions and details of the competition have yet to be decided, but the desirability of breaking new ground in this direction may be made clear with one or two simple illustrations.

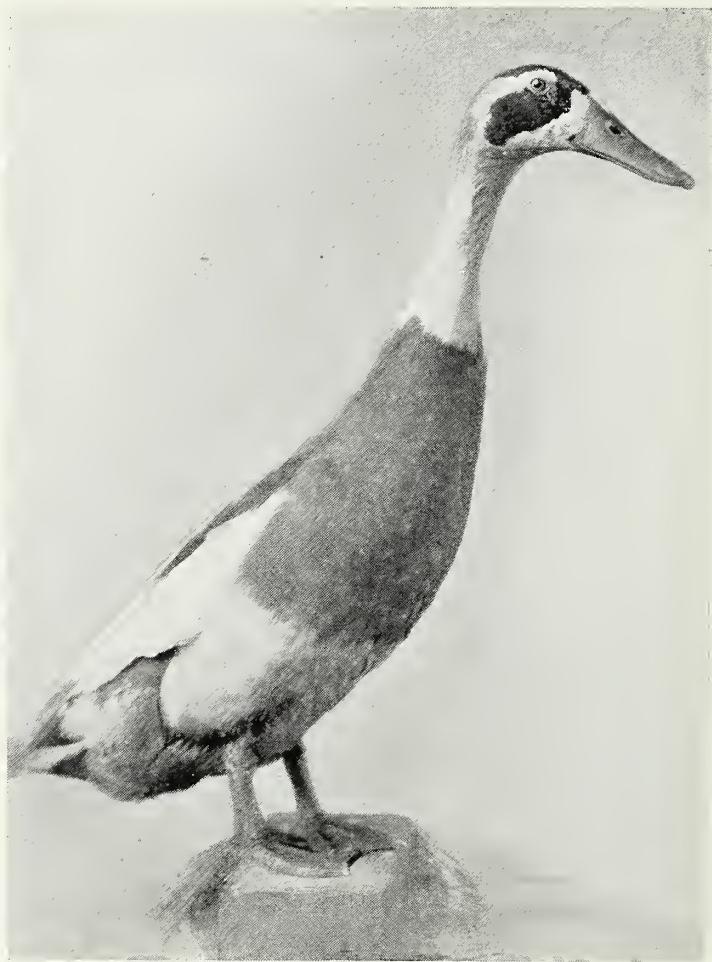
Early chickens are the most profitable because they realise the highest prices. But it is quality and not mere size that decides the value of an early chicken. Supposing two men each set a batch of eggs in January or February, one possessing a quick-growing, fine-boned strain that will come to perfection in a very short time, whilst the other's strain possesses no particular merits beyond the white legs and skin that are considered by superficial observers the hall-mark of excellence in a table-fowl. What result can be anticipated? Why, the man with the quick-growing strain will have his birds upon

the market when about three months old, and will realise the highest prices, whilst his birds will have cost him comparatively little to rear and feed ; whereas the man who regards white legs and skin as the sole merits in a table-fowl may find his chickens slow growers, heavy in bone, and difficult to fatten, so that he may have to keep them a few weeks longer, expend a few pence more per head over their production, and eventually realise a lower price.

Then, again, it is a most difficult matter to convince some people that there really is a good market for well-fattened, small, but early chickens. They like to keep them till they are five or six months old and a decent size, by which time the opportunities have been missed. Depend upon it, there is a lot of leeway to be made up in the direction of producing table-chickens, and how can it be attempted with more hope of success than by adopting such an attractive feature as a competition, which, let us remember, has already been proved a complete success in another direction?

THE INDIAN RUNNER DUCK.

ASK "the man in the street" what is the gait of the duck and he will answer, without a second thought, that the bird waddles. The Indian



AN INDIAN RUNNER DRAKE.

Runner, however, is a species of water-fowl which has none of the waddle about it, but which runs

as cleanly as a fowl! It is a water-fowl, certainly, but it is more at home on the land than when given the opportunities of a swim. It can swim, of course, but it prefers a good land range; and given such, it will prove one of the most profitable breeds to keep.

Regarded from the utility standpoint, it is a much better layer than a table breed, and as a layer it has not its equal in water-fowl circles. Some of its records in this direction are enough to make the common or garden hen turn green with envy! Many people consider that duck eggs are altogether too "fishy" and too rich for the ordinary palate; but the flavour and quality of the egg are governed by the food eaten by the bird which produces it. There is nothing objectionable about the eggs of Indian Runners which are farm-reared and have to seek much of their living on the land; and with ordinary poultry food they will lay eggs of a delicate enough flavour for the most exacting palate.

It is a great point in show specimens to have the birds standing almost on their tails, to have the head and bill long and slim, the neck very thin, and the shoulders almost imperceptible. The Indian Runner must not be wide across its shoulders, nor, in fact, across any part of its body; and it is a mistake to breed for big and heavy specimens. The standard weight for the drake is $4\frac{1}{2}$ lb. and for the duck 4lb., and in neither sex must the weight exceed $5\frac{1}{2}$ lb., nor, on the other hand, be less than $3\frac{1}{2}$ lb., these weights in each case being for fully matured adults. The colours are fawn and white.



LIGHT BRAHMA BANTAM PULLÉT.

THE LIGHT BRAHMA BANTAM.

SINCE the Brahma Bantam has a special club to look after its interests, there is no reason to doubt that the breed will soon take its place among the popular kinds of diminutive fowls. The Light appeals to one not only by its colour and marking, but from the fact that it is such an excellent counterpart of one of the biggest breeds of domesticated fowls.

The colours are simple, white of a silver tint with rich black markings. The cock's neck-hackle is silvery-white, with a sharp stripe of brilliant black in the centre of each feather, the stripe tapering to a point near its extremity, and being free from a white shaft. The saddle is white, or white slightly striped with black; but the former colour is preferred, and a dark saddle is admissible only in birds having very dark neck-hackles. A little quantity of black is allowed in the wings and in the shank and toe feathering, while the tail is black, or black edged with white. In other respects the plumage is pure white on the surface, with white, blue-white, or slate under-colour.

And except that the neck-hackle striping is more dense at the lower part, and the black centre of each feather is entirely surrounded by a white margin, the colour of the hen corresponds with that of the cock.

Although Bantams, to merit their name, must be small, it is not a wise plan to aim solely for size in the Light Brahma. The endeavour should be to fix the markings and colour, to adhere to type—the Brahma has a type of its own—and to aim for

profuse leg and foot feathering ere seeking to produce very small birds. The standard weights are 38oz. for matured cocks and 32oz. for hens.

Despite what may be thought to the contrary, the hens of this variety are capital layers, close sitters, and careful mothers. The eggs are of good Bantam size, while they weigh on the average between $1\frac{1}{4}$ oz. and $1\frac{1}{2}$ oz.

FANCIERS AND FANCY MATTERS.

By WILLIAM W. BROOMHEAD.

Death of Mr. Harold Porritt, J.P.—Croad Langshans—A Unique Performance—"Other Varieties"—The Poultry Club Election—The Fancy in Ireland.

DEATH OF MR. HAROLD PORRITT, J.P.

Readers will learn with regret of the death, on July 31, of Mr. H. Porritt, J.P., at the Rowlands, Summerseat. Mr. Porritt had been in failing health for some time, although he was in business as late as the Wednesday before his death. The deceased gentleman had only taken up exhibition poultry for a comparatively short time, but since he was a particularly good buyer in addition to being a keen fancier, his name figured well up in the prize lists at the important poultry meetings of the past season or two. Although he first exhibited poultry (Black Orpingtons) some four years since, it was not until towards the end of 1908 that he began to show at all extensively; and the breeds with which his name was associated were Old English Game and Old English Game Bantams, Orpingtons (Black Orpingtons) some four years since, it was and Buff), and Wyandottes (Black and Columbian). He had scored seven wins on the Poultry Club's Orpington (breed) Cup, and five on the Plymouth Rock Cup, offered by the same club for competition among its members. With Black Orpingtons last year he won first prize in cockerels and a similar award in pullets at the Dairy Show; two silver cups and three of the four first prizes at the Black Wyandotte Club Show were secured by his birds; while at the annual exhibition of the Columbian Wyandotte Club he won two challenge cups, first prize in hens, first in pullets, and second in cocks. Perhaps Mr. Porritt's greatest success at any one show was at Birkenhead last year, when a team he entered secured twenty first and special prizes—viz., thirteen firsts and seven specials. His birds when exhibited were seldom "out of the money," and within twelve months they had won upwards of thirty silver cups and hundreds of first and special prizes, and at such fixtures as the International (Crystal Palace), the Dairy, and the Specialist Club events. Mr. Porritt was not known to a very wide circle of exhibitors, since he rarely visited shows outside Lancashire, and he was generally represented by Mr. John Wilkinson, but those who had the pleasure of his acquaintance found him a fancier in every sense of the word, and one of whom the Fancy was justly proud.

CROAD LANGSHANS.

I hear from Mr. R. O. Ridley, of King's Lynn, Norfolk, that he has had a very successful season with his Croad Langshans; and that, despite the

unpropitious weather experienced in the spring-time, eggs proved very fertile. Over eight hundred were sent to various parts of the country for setting; and more than two hundred chickens were reared between February 1 and April 15, at which latter date the gamekeepers who attend to the chickens at Docking Hall have to give up fowls for the season and get busy with game eggs, since the preserves on the estate are extensive. Mr. Ridley tells me that he did not lose a chicken from any disease; yet in most parts of the country this has been one of the worst chicken seasons for some years. "We paid extra attention to ticks this season," he writes, "and we treated every chick, as soon as hatched, with tick ointment, and again in a fortnight, and we were well repaid for the trouble." For the first eight or ten weeks of their lives Mr. Ridley's chickens are reared solely on "dry chick feed," and this has entirely put a stop to a troublesome complaint that used to attack the birds in the very cold weather, and I can speak from experience that the poultry establishment at Docking Hall is a cold place in winter, since it is fully exposed to the north-east winds! After the first two months or so cooked food forms one of the daily meals of the chickens, and they are given a small quantity of minced meat, and always plenty of green food. The early-hatched pullets, however, had to be put on an oat diet as they came on so quickly; but, sparse feeding notwithstanding, some of them began to produce eggs in June. As an instance of the high percentage of fertility, Mr. Ridley tells me that from a dozen eggs he sent to Aberdeenshire on March 9 eleven sturdy chicks were produced, there being one dead in shell; yet the eggs had travelled 450 miles. These chickens were reared on a grass run at a time when there was nothing but rain and wind, with an occasional snowstorm; but they did well. The food used was principally oatmeal, scraps of beef, and whole oats; and at sixteen weeks of age the cockerels averaged 5lb. $6\frac{1}{2}$ oz. and the pullets 4lb. 3oz., the best of the former scaling 6lb. 5oz. and of the latter 4lb. 10oz. These are indeed excellent weights; but with such a system of feeding in the South of England it would result in much leg weakness.

A UNIQUE PERFORMANCE.

Leghorn fanciers, particularly those who are interested in less popular varieties than Blacks, Browns, and Whites, will no doubt recollect a Duckwing pullet which Mr. G. Tyrwhitt Drake, of Cobtree, Sandling, Maidstone, bred last season. This bird, which was never beaten in 1909, won seven first prizes and eight cups; and among her victories she scored special prize for the best Leghorn at the Dairy Show, a similar honour (a cup, however) at Hayward's Heath Show, two cups for the best hen or pullet (any breed or variety) at Tunbridge Wells Show, and at the Cambridge Mammoth Show the ten-guinea cup for the best hen in the poultry section, the five-guinea cup for the best Leghorn, and first prize. On the same date this year, on August Bank Holiday, at Cambridge, Mr. Drake again exhibited the bird, and she was again granted the two cups (for best hen and best Leghorn) and first prize. If this record had been put up by a bird of "the heavy brigade" it would probably have been nothing in particular,

since Orpingtons and Wyandottes have possibly gained more "best in show" specials than all other breeds put together. But for a Leghorn to do this must be, I think, a unique performance. Mr. Drake is a Leghorn specialist, and has the finest collection of all varieties of the breed of any fancier in this country. With him the poultry are a hobby, and although he is a keen fancier, he has an able poultryman to assist him. I was asking him the other day if he found poultry pay, and he told me that only once since he has been in the Fancy has he found much of a surplus attached to the poultry account. The birds, however, are not his only hobby, and at Cobtree may be seen quite a good collection of wild beasts, including wolves, bears, and a young lioness. This lioness he recently purchased when a famous collection came under the hammer; and to make certain that she reached her destination in good condition he brought her through London on the back of his motor-car. As he said, when he was telling me of this, had there been a collision when the car was passing through Piccadilly Circus there might have been a commotion!

"OTHER VARIETIES."

The fact that a White Indian Runner duck was exhibited at the Royal Show this year, and won first prize in a mixed class, caused some controversy in water-fowl circles, and apparently it is still a disputed point as to whether the award of the judge was correct or otherwise. That the bird in all but colour, was a characteristic Runner is beyond question, and personally I have not seen a better specimen of the breed for carriage, stamp of body, length of neck, and shape of head. The matter in dispute is the colour; the Indian Runner Duck Club acknowledges only one variety, the fawn and white, as it is called. I see that at Cambridge Show last month a White Indian Game won special and first prize in the class for any variety pullets hatched in 1910, although Orpingtons, Plymouth Rocks, and other breeds were competing in the same class. This is certainly the age of new varieties; but, in my opinion, it takes a bold man to break out of the usual line with Indian Game. No doubt some of you have heard of the Jubilee Indian Game, which had a brief run a few years since, and there is the Buff Indian Game, which is spoken of very highly at a certain well-known poultry farm in Gloucester. But—well, ask the Indian Game Club men what they think of these innovations!

THE POULTRY CLUB ELECTION.

To carry out the resolution passed at an extraordinary meeting of the Poultry Club Council, held on November 17, 1909, "That for the purposes of election England shall be divided into four sections, and that for each section three vice-presidents be elected," the sub-committee which had the matter in hand suggesting the following, which was adopted at the meeting of the Poultry Club Council last month: "Section 1, Cumberland, Northumberland, Westmorland, Durham, Lancashire, Yorkshire, and Cheshire; Section 2, Derby, Nottingham, Lincoln, Shropshire, Stafford, Leicestershire, Rutland, Hereford, Worcester, Warwick, Northampton, Cambridge, Norfolk, Suffolk, Hertford, and Bedford; Section 3, Essex, Kent, Surrey, and Sussex; Section 4, Gloucester, Buckingham, Huntingdon, Berkshire, Cornwall, Devon, Somer-

set, Dorset, Wiltshire, Hampshire, Oxford, and Middlesex. From a geographical standpoint, some of these sections are hardly satisfactory, but since it was the object to divide the country according to membership and not locality, the division could not be bettered. Thus in the first there are 297 members, in the second 292, in the third 291, and in the fourth 296. The membership for Wales is 70 and for Scotland 44, and each of these countries will be permitted to have one vice-president. The division of England is, in my opinion, a most unsatisfactory one, since if the membership in sections 2 and 4 should at some time increase to any great extent, it will throw the whole scheme out of gear in that three vice-presidents will not be sufficiently representative. Of course, some of the counties have a lot of members; for instance, in Lancashire there are 129, in Yorkshire 92, and in Cheshire 60; in Kent 106, in Surrey 76, and in Sussex 61. The strongest in section 2 is Worcester with 51, and the weakest Rutland with 1, while in section 4 Hampshire heads the list with 54, and at the foot there is Huntingdon with 0! In some counties, however, progress is next to impossible. The figures are taken from the membership up to the end of July, 1910, but how will they stand when the list is revised prior to the issuing of the 1911 Year Book, and names are struck off on account of arrears in subscriptions? It would have been much better to have formed the sections according to groups of counties, if reform were needed, but it will be interesting to see what happens. This coming election is going to be a trial trip, and if it ends as did that of 1909, I, for one, will not be surprised. Seven vice-presidents retire this year, five for section 4 (three vacancies) and two for section 3. If the results of the election are out by the end of the year, it will be quick work in the circumstances. Members look for results at the Dairy, but I am afraid they will be disappointed this time.

THE FANCY IN IRELAND.

Some time ago I wrote a note in these columns to the effect that at most Irish shows this year competition is being confined to exhibitors living in Ireland. At the time I thought it was an excellent move, and one likely to encourage Irish exhibitors to take up the Fancy more strongly than ever. These are early days, maybe, to see what effect this has had; but so far the reading of the reports of Irish shows is becoming somewhat tedious. Thus, if the prizes and specials are at all tempting, one can be almost certain to say who will win in the popular breeds, and the reports are merely a repetition of shows which have gone before. A mere handful of birds goes the round, and one need not possess a very large team of really good specimens to gain the bulk of the prizes. I have had a letter from a friend in Ireland telling me that the shows are deteriorating to the level of the English summer events! Well, as I say, these are early days. We shall be able to see what effect it has had when the 1910 season closes down. There is room for a big increase in the Fancy in Ireland, and with the great improvement there has been of recent times in the quality of the poultry generally, I think that a year or two will see the Irish Fancy quite a strong one.

THE RIGHTS AND WRONGS OF SHOWING CHICKENS.

To the Editor of the ILLUSTRATED POULTRY RECORD.

SIR,—It is probable that chicken classes at poultry shows have never been in such a thriving state as at present—have never attracted such excellent entries or such good quality. They have grown in popularity during the last few years, and with their growth has come into being a certain class of exhibitor as well as certain difficulties and conundrums. These have had to be dealt with from time to time, and we know they have been disposed of by the Poultry Club and by specialist clubs in a more or less decided manner. The results are not, perhaps, altogether satisfactory, but that point need not be considered now.

They are all part of the domestic management of the Fancy—these difficulties about the young stock classes ; and the question is, perhaps, not so much whether they have been satisfactorily encountered—although that certainly provides pleasant and absorbing matter for discussion—as whether the whole system of showing chickens is desirable and profitable. At a time when classes for young birds are in so particularly flourishing a condition this may seem a strange question to ask, and on the face of it I suppose the chicken show, or that section of it which is confined to birds of the year, appears to be a popular institution. Now, I have always found that very few exhibitors, whether amateur or professional, have a good word to say for the show chicken. Many declare that they would never pen these half-grown specimens but for the fact that their rivals do so, and quite a fair number of big breeders have given up the business altogether.

It is, then, a curious state of affairs, because, on the one hand, we find well-filled chicken classes, and, on the other, difficulties of regulation and administration as well as, I think, general dissatisfaction. The matter becomes still more complicated when we review the simple question of why the chicken was ever introduced to the show-pen—why half a fowl, angular and gawky, was ever stuck up as an exhibition specimen, and why anybody took the trouble to compete with it. The primary motive of a poultry Fancy is presumably to produce fowls of fine feather and carriage, and that by-product whose feathers are but transitory, and are yet the only merit it can claim, is surely without the realm and purpose of the Fancy proper.

In the beginning it was just a case of simple rivalry between chickens of normal growth and prospects ; but to-day there are wheels within wheels, many complications, and tremendous competition. The chicken that is to win in these summer months has been reared like a hothouse plant, intensely fed and grown from the very first, and its enviable fate is to march round the agricultural shows from week to week—to win firsts at the outset and afterwards steadily to descend the scale of honours until, about mid-autumn, it retires from the show arena.

Then there is the possible dishonesty attendant upon the career of this unfortunate fowl ; and for

aught we know, he is scooping the prizes by the sheerest fraud. He saw the light in early December, whereas the catalogue tells us he was hatched in 1910 ; that, we know, is the common disgrace of summer shows, and one which seems entirely baffling. Too often it is the lot of this feathered criminal to be palmed off for a “fiver” on some luckless novice, and, in fact, his whole career is extremely disreputable.

Yes ; this is not an amateur’s game, this chicken-showing, despite the fact that it is the amateur who fills the prosperous classes. Those who follow the show reports will corroborate me when I say that the professional fancier monopolises competition at every event of any importance. We are surely familiar with the teams he puts down—young stock of extraordinary size—or, rather, forwardness—in perfect chicken-feather, and turned out with sheen and bloom. I am not suggesting every big exhibitor hatches prior to the legitimate season, by any means ; on the contrary, the ability of some men to force growth by dint of constant care and industry is really astounding. But I contend that for the amateur, however painstaking he may be, similar success in showing chickens is virtually out of the question.

And so the young stock classes have become the tilting ground of the great men in the Fancy—a bad thing for the Fancy. The amateur often appears to be under the impression that he must exhibit a chicken or two when opportunity offers, and in that way he sometimes ruins fairly promising birds. But, for his own sake, it should be impressed upon this ingenuous person that the show-chicken is essentially a by-product of the Fancy. Like the day-old chick, it must rank as a speciality and a side-line to general business, one for which special arrangements must be made and to which a good deal of attention must be devoted. That it is a profitable line of trade I can scarcely believe. It entails hatching very early indeed, the most “forcible” system of rearing, and perhaps in the end nothing worth exhibiting will be discovered in the flock. No breeder expects to find his genuine “crack” specimens among those early-hatched birds, and even if he discovers a chicken of merit, I cannot see what substantial reward he stands to gain. Show-pen advertisement—yes ; and the chance of a profitable sale. True, if the latter comes off, his position is a happy one, but save between breeders and professional exhibitors (and the opportune deal with the novice) I doubt if the ready-made show chicken often changes hands.

Be this as it may, I certainly think the whole system of exhibiting young stock is an unsatisfactory one, and if at some distant time the Poultry Club—then an omnipotent body—decrees that no class for birds hatched during the current year shall be scheduled before October 1, I believe the Fancy as a whole will approve. Under present conditions, judges are bound to give points for size and forwardness, and the practice of forcing growth by every possible means, simply with a view to taking prizes at the summer shows, seems singularly profitless so far as most of us are concerned.

—Yours, &c.,

W. H. G. EWART.

THE POULTRY-KEEPER'S OTHER INTERESTS.

By "HOME COUNTIES."

Author of "The Townsman's Farm," "Poultry Farming: Some Facts and Some Conclusions," "The Case for the Goat," "Country Cottages," &c.

"Poultry should be only one part of the stock."—*The Secretary of the N.P.O.S. in the "Cyclopaedia of Modern Agriculture."*

THE GRASS IN THE PENS.

The other day I received the following letter, which I reproduce, along with my reply, because the problem set must present itself to many poultry-keepers when they are making a start:

I am taking a house which has about two acres of ground, in which are planted about 150 standard fruit trees, and which is laid out in chicken-pens, in which I propose to keep fowls.

My trouble is how to keep the grass down, and the alternatives that have occurred to me are to keep goats, sheep, or rabbits. The primary object is to keep the grass short, and the labour of mowing every week would be too much.

The production of rabbits to eat or sell, goat's milk to

which is the idea I like most, I could bury the wire so that they could not either get out or touch the trees. But one rabbit-fancier to whom I wrote said that it would not work, and recommended goats.

Shall be greatly obliged for your advice.

WHY NOT THE SCYTHE?

I wrote to my correspondent as follows—and no doubt at a little greater length than if I had not had it in mind to reprint my letter here!—I do not know what the history of the chicken-pens is, but if they have already run a fair number of birds, and you are going to run a fair number, you should not overlook the possibility of fouling the ground with additional stock, whether rabbits, goats, or sheep.



A SYRIE (MAMBRINE) GOAT. A PROLIFIC MILKER. [Copyright.

The property of Mons. René Caucurte, an article on whose Goat Farm will appear in our next issue.

drink, or fattening sheep, though all of a certain importance, still are only secondary objects. As regards sheep, as far as I can find out one is not likely to get more for them in the autumn than one has paid in the spring, and there is the chance of one or more dying.

As regards goats, there appears to be the necessity of moving them several times a day, and the risk of damage they would do, if they happened to get loose, to the wire fences and fruit trees, even though wired round.

With regard to tame rabbits, the number it would be necessary to keep in permanent movable hutches to keep down the grass would take up so much time that there would be none to attend to the fowls and fruit trees. As regards letting them run loose in the pens,

Then, as to "the labour of mowing every week," surely this is an exaggerated view. The pens are not lawns. And is it necessary to occupy all the pens at once? If you have a number of pens, cannot you move your birds from one to the other as they are mown? The rough hay, if you have no other use for it, would at least be useful for putting in the scratching-sheds. For cutting down grass there is nothing which beats the scythe.

RABBITS.

As to the alternatives, I don't see how the rabbits are going to work run loose. You would have

tremendous trouble in protecting the roots as well as the bark of the trees, for there ought to be a four or five feet ring of ungrassed ground round each tree, and there the rabbits would certainly try to burrow, unless it were protected. And if they get into the hen-houses they would get fleas on them, and generally speaking, I think your rabbit-fancier adviser is right in dissuading you from warrenising the place.

THE DIFFICULTY OF CONTROLLING GOATS.

As to goats, the trees must be protected. I have tried all the makes of "spring hooks" and tethering pins I have heard of, and not one is to be trusted absolutely. There always comes a day when a piece of stick picked up, or an unsuspected fault in the ground in which the peg is put, contrives to facilitate either the raising of the peg or the jamming of a swivel. You may have no accident for weeks, and then some day, in half an hour, two or three trees are absolutely ruined. Not that a mere partial barking of a tree kills it. As long as there is the narrowest strip of continuing bark from ground to top, the tree will recover, but this bark-stripping obviously does the trees no good, and goats usually make a job of a tree by taking the bark off all round.

WIRING TREES.

Of course, you can wire in your trees. You can put the smallest mesh round the trunks; but although goats have only one row of teeth, they manage to get at bark through the smallest mesh and hack up and tear it. You could wire each little tree plot round, but the stakes would have to be very firmly set up or the goats would break them down. Remember that a goat stands on its hind legs when there is the least chance of getting hold of a twig, and in that position its mouth is at a good height from the ground. Remember also that if it can get wire loose at the bottom, it will go down on its knees and shove its head in below. Goats always prefer a little bit of feed which is almost out of reach to a bit which can be got without any difficulty. I once carefully wired the trunks of about the same number of trees as you have, but after a year or so I took the wire off, and stopped putting the goats among those trees, for the wire was not a perfect protection.

THE CASE FOR SHEEP.

Sheep are not so bad tree-barkers as goats, but they can bark if they have a mind, and frequently they take a fancy to trees. Of course, they do not stand on their hind legs as much as goats, but either sheep or goats left in apple pens get bored and have to occupy themselves with something, and trying to bark a tree, the owner of which imagines it safe from barking, is their notion of a perfect sport. Then goats and sheep enjoy rubbing themselves against anything which offers a fair amount of resistance, and they soon sag wire netting unless exceedingly well poled. Your poles, not being new, will not take much to make them snap off. You will certainly lose money on sheep unless you are a farmer. The inexperienced should never touch sheep, and I don't suppose you will have any neighbour who would run some in your pens at so much a week. However, sheep seem the least troublesome of the three grass-cutters you suggest, but you will soon have a drunken lot of poles.

THE LEAST OF THREE EVILS.

If you set store by the appearance of the place, and value your trees, have goats in a place by themselves, and take the grass or hay to them, but if you are continually about yourself, or somebody is continually about in the pens, and you don't mind the loss of a tree now and then, you might try tethering your goats. You may have a run of luck, and of course your trees may be a good distance apart. If you would like to keep goats, or have some already, try the experiment for a year.



THE MURCIE GOAT OF SPAIN. [Copyright.]

I need hardly repeat that for appearance's sake a scythe gives a better result than feeding off. Another department of this paper would warn you against filling all your pens at once with birds, and if you use only a certain number at a time, you can solve the grass-cutting problem perfectly well with the scythe, and have a little hay-stack at the end of the year for your goats.

Penned by themselves and well littered, they will make a lot of manure, and you will have no worry with them—if you put two fasteners on their door and always use them.

WHY NOT LET THE GRASS GROW?

So far my reply. Many readers of these notes must have long since determined by practical experience which is the best way of dealing with grass in pens. If they have any wisdom for my correspondent, I shall be glad to hear from them. It might be added that while rough grass won't do for chicks, it is not, except for appearance's sake and the wastefulness of letting it get tumbled down, such a bad thing to leave it to Nature and the hens. I am not an entomologist, but I notice that in a rough grass pen in the evenings the birds, in the summer evenings particularly, seem to find a good deal of insect food. It is no doubt the case, also, that grass which is allowed to seed makes a better stand against the scratching propensities of hens than grass which is never renewed by its own seed falling on the bare places.

NOTES FROM ABROAD.

Poultry-Fattening in Natal.

That with a growing demand for higher-grade poultry the fattening system will be increasingly adopted where it has hitherto been known is evident. An interesting account is given in the *South African Poultry Journal* of what is probably the first fattening establishment in Natal, at Umtwalamu. This is owned by Mr. W. F. Curry, and is managed by Mr. F. Osborne, who is recorded as having had considerable experience in England. The birds are kept up for sixteen days, in which time $1\frac{1}{2}$ lb. can be added to the weight. The demand for these birds is far greater than the present supply.

Cornell Men in Kansas.

Mr. F. S. Jacoby has been appointed Assistant in Poultry Husbandry, and Mr. D. S. Schreiner, foreman of the poultry plant, at the Kansas State Agricultural College, Manhattan. Both were trained by Professor Rice at Cornell.

A Gathering of Veterans.

An excellent idea was materialised at the last Boston (U.S.A.) Show, when a banquet was given by the Boston Poultry Association to poultry-breeders not less than sixty years of age who have kept fowls for twenty-five years and upwards. Of these nineteen accepted the invitation, and all the guests had an opportunity of saying a few words as to their experiences. Among those present were sons of New and Old England, of Ireland and of Germany.

A Great Failure.

Mr. Charles A. Cyphers, of Buffalo, N.Y., has filed a petition in bankruptcy. He has been a Napoleon in poultry-appliance making, but has found his Waterloo. The original inventor of the Cyphers Incubator, &c., he did much to popularise that machine. Five years ago his connection with the company bearing his name was broken, and he started the Model Incubator Co., which recently has passed into the hands of Mr. Robert H. Essex. Four years ago he established the Model Poultry Company, intended to breed chickens on a huge scale, reared on shelf-brooders, but that has been a disastrous failure, losing £33,000.

Cyphers Company in Chicago.

Apropos of the above, it is of interest to record the announcement that the Cyphers Incubator Co. has decided to remove its manufacturing plant from Buffalo, N.Y., to Chicago, Ill., where it has secured a large plot of land in the manufacturing section, upon which it is intended to erect a huge factory and warehouse for the manufacture of incubators and brooders and a mill for the making of foods. This will be a big removal—600 miles.

School Children and Poultry.

That "the child is father of the man" is realised by New Zealand poultry-breeders. In connection with the Fairlie Show prizes were offered for the best essay on poultry by school children; and some are said to have been excellent.

Spratt's Patent in New Zealand.

Exchanges record that at the Colonial Exhibitions large displays have been made by this well-known firm of their various goods, inclusive of their new incubator. The more British makers push their wares the better it will be. Quality is bound to tell in the long run.

Russian Priests and Their Poultry.

In many countries the earliest steps in agricultural and live-stock development have been due to the influence of monks and priests and religious teachers, who, more highly educated and travelled than their flocks, have introduced new varieties of animal and plant life and advanced methods. Such has been so in all ages, and is still true in the twentieth century. The notes from our esteemed correspondent Miss Friede, who sends the accompanying photographs, refer to a clerical poultryman.

There are many prominent poultrymen (says Miss Friede) among the Russian clergy. The one here represented has a small breeding plant of his own, at which he has made many most interesting experiments in crossing poultry. He has secured a combination of the Transylvanian Naked-necks, Silver Wyandottes, White Leghorns, Silver-pencilled Hamburgs, and White Frizzles, which appears to give great satisfaction. His aim is now to fix the good points of each so as to secure an entirely new breed. From present appearances it will be a very useful fowl, white in plumage, a non-sitter, exceedingly hardy, about 5lb. to 7lb. in weight, and a prolific layer of large, white-shelled eggs. The principal



FATHER STEFANOWSKY.

[Copyright]

point in favour of this combined breed seems to be that they are excellent layers from early autumn to mid-winter—that is, from August to January—after which, during the time of heavy frosts, there is a short interregnum, and they start laying again about the middle of February, continuing until the summer heat and time of moult.

Besides fowls, Father Stefanowsky, whose name is well known among the fanciers of the district, keeps tame fancy pigeons, and has a lovely garden in which is a collection of all kinds of rare flowers and plants, inclusive of some Canadian and even Australian specimens.

A Railway Company Scores.

The *Indian Fowl Fanciers' Journal* is responsible for a story to the effect that an Indian breeder had an Aylesbury duck killed at Motipore Station by a pie dog. Although not stated, we suppose it was *en route* to a customer. On making a claim the sender was politely told she was not believed, and compensation was refused. But the station-master was fined thirty rupees, so that "the company made a profit."

Australian Poultry History.

Something evidently in the Australian climate and conditions has always been favourable to poultry. The *Agricultural Gazette of New South Wales* tells that :

Poultry-keeping in Australia dates from the arrival of Governor Phillip (?1798), the nucleus of our domesticated feathered stock arriving by the first fleet, but while the records tell us the quantity of mares, sheep, goats, and pigs, with which the Governor commenced breeding operations, the poultry were merely described as "some fowls and turkeys."

That the climatic and other conditions then obtaining were favourable to poultry-breeding can be realised from a return made three months after landing, when the stock of the first poultry farm in Australia counted 28 turkeys, 29 geese, 142 fowls, and 87 chickens. Five rabbits are also mentioned. . . . Phillip wrote in September of his first year of settlement that of 70 sheep all had died but one: two bulls and four cows had "walked off," and the balance had died; but the hogs and poultry were thriving.

Macdonald College Plant.

At the Poultry Institute, Guelph, Professor F. C. Elford told an interesting story relating to the poultry department at Macdonald Agricultural College, which is well worth repeating. Sir William Macdonald, the millionaire founder, and Dr. Robertson, in putting up the college, thought the poultry department as important as any other:

Mr. Elford, said Sir William, you will have oak furnishings in your building, and it is to be put up fireproof, and everything is to be just the same as the other departments. I have gone into poultry plants in a number of agricultural colleges, and they looked as if they were cast-offs from the other departments. We are not going to have that here. The poultry department is going to have just as good a start and just as good an equipment as the President's office.

That spirit deserves success and requires emulation.

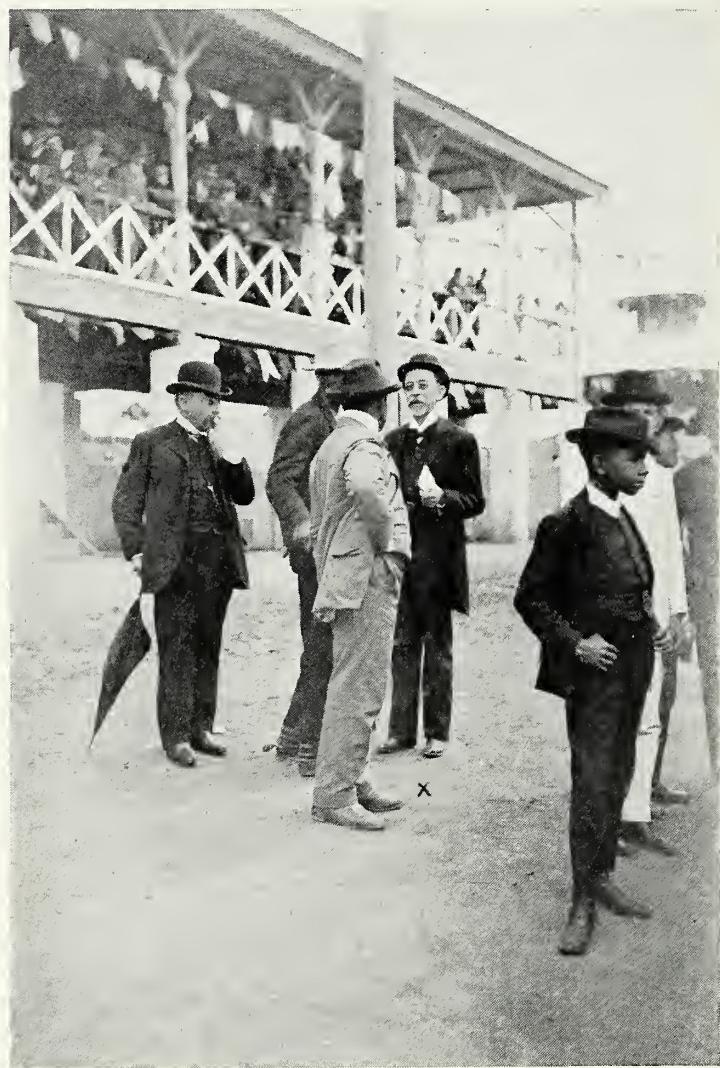
Trap-Nests and Their Value.

In the same address Professor Elford said that "the secret of trap-nesting is not to get the two-hundred-egg bird. I do not want a two-hundred-egg hen on the place, but it is to do away with the culls, bring up the average, by getting rid of the poor hens."

A Railway Poultry Farm.

The Northern Pacific Railway Company finds a difficulty in supplying the needs of its dining cars, and more than a year ago established a poultry farm in Washington State, where upon fifty-two acres 11,000 White Leghorns are engaged in pro-

viding new-laid eggs for the purpose named. In this way an output of 150 dozen eggs per diem has been secured. So successful has been the venture that the company is going into cow-keeping and the growing of garden produce.



THE STATE AGRICULTURAL SHOW AT BELLO HORIZONTE, BRAZIL.

Senador Dr. Salles, a well-known Brazilian poultry-keeper and President of the Committee, is indicated by a cross.

[Copyright.]

Cold-Storage Eggs and Poultry.

The Californian State Board of Health is determined that the sale of cold-storage goods as fresh shall cease. It has enacted a law which provides that :

All packages containing poultry and eggs from cold-storage must be tagged—*i.e.*, labelled—as follows when offered for sale: "The product contained herein has been kept under refrigeration for purpose of preservation."

How far this applies to delivery by retailers remains to be seen.

In the State of Maine it is provided that only fresh-laid eggs can be lawfully sold without being labelled to show exactly what they are. Cold-storage eggs, or eggs that have been preserved in any way, when offered for sale must be labelled in accordance with fact, and every package delivered to the consumer containing stored eggs must be

labelled to show exactly what they are. Eggs that have begun to decompose cannot be lawfully sold in Maine under any conditions whatever.

Cresol Soap as a Disinfectant.

The twenty-fifth annual report of the Maine Experiment Station contains much that is instructive and of value to the poultry-keeper. Among other things, it recommends as a germicide and disinfectant what is called *liquor cresolis compositus*. Commercial cresol is very corrosive and must be used with care. The method of preparing the soap is as follows :

Measure out four quarts of raw linseed oil in a four or five gallon stone crock; then weigh out in a dish $1\frac{3}{4}$ lb. of commercial potassium hydroxide or caustic potash, which may be obtained from any druggist at a cost of from 10 to 15 cents (5d. to $7\frac{1}{2}$ d.) per pound. Dissolve this caustic potash in one pint of water; let it stand for at least three hours until the potash is completely dissolved and the solution is cold; then add the *cold* potash solution *very slowly* to the linseed oil, stirring constantly. Not less than five minutes should be taken for the adding of this solution to the oil. For five hours after mixing, the oil and potash mixture (soap) should be stirred thoroughly about once every hour and then left standing for ten or twelve hours. By the expiration of that time saponification should be complete. The soap should then be stirred and broken up into small pieces, and five and a half quarts of commercial cresol should be added. It may take two days for complete solution to be effected. The length of time taken in dissolving will depend on the condition of the soap, which in turn varies with different lots of linseed oil. When the soap is all dissolved the solution, which is *liquor cresolis compositus* or cresol soap, is then ready for use.

Three tablespoonfuls of the cresol soap to each gallon of water will make a satisfactory solution, and it can be applied either with a spray or a brush.

BREEDING FOR THE COLONIES.

By OSCAR SMART.

WITH the ever-growing demand for English-bred fowls in the Colonies and abroad, it behoves all British breeders to study the requirements of those who, in the end, may easily prove their best and most regular customers. That fowls are primarily exported for exhibition purposes goes without saying; but that their continued popularity in their new home will depend largely on their utility characteristics is equally true, even if not so trite. Only such breeds as prove good layers and good table-birds, under the peculiar conditions of each individual colony, will make any headway when they leave these shores.

What, then, are the best breeds for exporting purposes, and why? To the merest novice it must be apparent that no hard-and-fast rule can be made, as places so widely apart and so vastly different as, for instance, Canada and South Africa can hardly be expected to obtain satisfaction in birds bred for other than their specific requirements. The fact of the divergence in food, climate, and

accommodation is sufficient to show that each country will demand a separate and peculiar race of fowls.

In the first place, it is undoubtedly our duty to inquire : In what way is a fowl protected from extremes in temperature ; and how may we develop such features so as to give them a real utility value under certain conditions? There can be little question that a bird's feathers are arranged as much for its warmth as to protect the delicate nature of its skin ; therefore, feathers must be regarded as having a high utility value. We may notice that those breeds coming from warm and Southern climes, such as Minorcas and Leghorns, are more sparsely feathered than the Cochin China and the Brahma, which have descended from a Northern Asiatic stock. This fact, however, has been rather a stumbling-block than a help to many well-intentioned people. And for this reason : they have overlooked the fact that lime forms the chief component of both eggs and feathers ; so that a heavily-feathered bird is seldom, if ever, a good layer. Hence the unsuitability of such breeds for exportation purposes.

The feathers, however, are not the only feature that governs the bird's temperature ; the comb is of even greater importance. The comb has neither been placed on a fowl's head for ornament nor by accident ; it has a most necessary function to perform. And this is to regulate the temperature of the bird—that is why you see so much difference in the size of Minorca and Cochin combs ; one comes from a hot clime, the other from a cold. When a fowl is moulting, and the body in consequence requires all available heat, and, again, when it is setting, the comb becomes small and shrunken. But when it again comes on to lay, and a large amount of surplus heat is generated in the body, the comb once more springs up, as if with new life, appearing fresh and red, and thus reduces the blood heat to its normal temperature. One has only to shut Minorcas or other large-combed birds up in a warm place to see how wonderfully this temperature-regulating organ acts. Some time since I heard of a cottager who, being desirous of exhibiting some Minorcas, and not having suitable accommodation, fixed some wire-netting in front of a kitchen cupboard and penned his birds in this. As the cupboard was near to the kitchen range, the birds' combs grew so enormously that they were a positive eyesore to all who beheld them ; they became normal again when put outside.

It will be gathered from these remarks that a sparsely-feathered, large-combed bird is the most suitable for exporting to hot countries, and that a more heavily-feathered fowl, with a small comb, is the better for colder climes. To a large extent this is correct ; but it is necessary to take a few other items into consideration. The foods that are at the Colonial's disposal and the purpose for which the fowls are intended must both be looked upon as important items. In addition to these, we must not overlook the fact that a large-combed bird is often a misery to itself as well as to its owner in a hot country, where it is as cruel to dub the bird as it is unsightly to allow it to carry so much headgear.

In South Africa, as well as in India, rice and maize (or mealies, as they are called) are the chief feeding stuffs ; and so, as both of these are fattening, the latter being somewhat stimulating besides,

a fairly active bird is required; while one with a large comb, under such conditions, is, of course, essential. The Minorcas and Leghorns, however, are not in my opinion the best for this purpose, both on account of their poor table qualities and their liability to become unsightly in regard to their combs. Under such conditions, a full, well-worked rose-comb is likely to be a success, as its larger surface and peculiar construction allow greater radiation and permit it to regulate the temperature without growing to abnormal size. Moreover, many of the rose-combed fowls make excellent table-birds; while the fact that some of them lay a brown egg weighs considerably in their favour.

Among this class of poultry, Wyandottes, White Dorkings, and the rose-combed variety of Rhode Island Reds appear to be most suitable for very hot climates. The Rhode Island Red I particularly wish to mention; not because it has any particular merit at present to warrant my doing so, but because I see in it unlimited possibilities. The breed is now, as far as this country is concerned, at any rate, in its infancy; and, as we are the premier stock-breeders of the world, why cannot the Rhode Island Red be scientifically developed as a breed specifically for exportation? There is undoubtedly money in it for those who have the pluck and the knowledge to take it up. Solely for laying purposes, the Rose-combed Minorca and Ancona, the Redcap, the Danish and American types of Leghorns, and, I believe, the Hamburgh, although it is not recognised as a utility bird, should be suitable for India and South Africa.

When exporting to Canada, undoubtedly the severe winters, with the hot summers, have to be taken into consideration. I have already stated why birds carrying an excess of feather are unsuitable for exportation, and we can easily understand why large-combed birds are unfitted to battle against frost and snow; therefore, my selection is to some extent limited to a few breeds not possessing certain characteristics. A small comb, a rather large body, and as much feather as is consistent with utility are among the principal features to be observed. As such birds are liable to put on fat, which, even in a cold climate, is not desirable, a fairly active breed is advisable; another great acquisition to Canadian fowls would be a slight feathering down the shanks, similar to that found in the different varieties of Langshans.

A more important feature, however, and one which has been grossly overlooked, is a small, insignificant-looking little organ to be found towards the end of the backbone, which is known as the oil- or rump-gland. This fleshy protuberance communicates with a cavity in the spine which secretes an extremely valuable oil that is used by the bird for anointing its feathers. This organ is present in all birds, and is a necessary part of their organism; although in individual birds it varies greatly, even when they are of the same breed. This organ is capable of the highest development; and one has only to realise how essential it is to a bird during severe or wet weather to understand what its cultivation would mean to Canada. A rich, regular supply of this natural oil would mean the better preservation of the feathers, greater warmth to the body, and in consequence a better egg supply during a prolonged or severe winter.

Consequently, when breeding for a cold country, the mating together of birds with well-developed

oil-glands is to be advocated. When selecting stock for this purpose, the efficiency of the gland may be ascertained in a twofold manner—(a) by examination of the organ itself, selecting for size, moisture, and general healthy appearance; (b) by the glossiness, or sheen, on the bird's feathers, which is a sure sign of an ample oil supply.

White and Buff Orpingtons, the different varieties of Sussex, Rocks, and similar single-combed varieties, are all suitable for Canada. Of Australia little need be said. I believe that the great Commonwealth has peculiar opportunities for stock-breeding and for egg-production; but I am not of opinion that anything very special in the way of table-poultry can be bred there. The climatic conditions in Victoria and South Australia are almost ideal; while the rich nitrogenous food supply makes an abundance of eggs almost a foregone conclusion. The smaller and more active breeds of fowls will be found the most suitable—Leghorns, Minorcas, Anconas, Campines, and similar varieties, all of which will be found to flourish there, and, if at liberty, practically to keep themselves (there being such an abundance of insect life) at a minimum of cost to their owners. These parts are therefore adapted to almost any breed of poultry; but those strains—for it is a matter of strain rather than of breed—laying an abnormally large egg should be avoided. Prolificacy is bound to be a feature of South Australian poultry; but if size of egg is aimed for, in conjunction with quality, nothing but disaster can follow. The Northern parts of Australia, such as Queensland, being within the tropical region, require similar breeds to those recommended for India and South Africa; and those exporting birds to these parts will do well to remember that the different portions of this great Continent must always be treated individually, and never as a whole.

Of all the places in the world, New Zealand is perhaps best adapted for poultry-keeping, as not only is it an ideal climate, but it is free from those periods of damp which are often so distressing to the home fancier. No special breeds are necessary for New Zealand; all that do well in England will do infinitely better there.

THE DISPOSAL OF SURPLUS COCKERELS.

A VERY common mistake, by no means confined to the amateur poultry-keeper, in the practical management of fowls is that of leaving the selection of stock until very late in the summer or early autumn. As a matter of fact, a rough selection should be made when the chickens are ten or twelve weeks old, immediately it is possible to determine whether they are likely to prove of value for breeding purposes or not. The birds that are likely to make valuable breeders should be placed by themselves, and it is all the better if they are unable to see one another. The chickens, on the other hand, that are rejected as breeders should be sent to market as early as possible. A fact the importance of which many fail to realise is that it pays much better to market a chicken early in the season, when it weighs only $2\frac{1}{2}$ lb. or 3lb., than

to retain it until it weighs half as much again, by which time prices have probably decreased very considerably. The likelihood is that in the first instance more money would actually be secured, to say nothing of the food and labour that had been economised. The selection of the cockerels should be very much more rigid than in the case of the pullets, because it must be remembered that the demand for the former is comparatively slight. However mismarked a pullet may be, she always possesses a certain value for egg-production, while a mismarked cockerel is of no value whatever, save for edible purposes. Besides this, six, eight, or ten pullets are required for every male bird, and consequently the demand for the former must always be considerably greater.

Save under exceptional circumstances, it does not pay to expend much time upon the preparation of summer or autumn cockerels, since their value never ranges very high. It certainly does not pay to cram them, but it does pay to subject them to a fortnight's special feeding. During this fortnight they should be closely confined in a small coop or in a fattening-cage, where they cannot procure much exercise, since the less they move about the more rapidly do they put on flesh. Feeding should take place twice a day, convenient hours being 6.30 a.m. and 5.30 p.m. The birds should be encouraged to take as much as they want at each meal, but as soon as their appetite is appeased any food that remains should be removed.

There is no better food for the production of first-class quality flesh than ground oats. This is by no means a cheap food, and therefore many prefer to use a rather less expensive meal. For early spring chickens the use of ground oats is certainly to be recommended, but since prices for autumn cockerels range low, we are rather inclined to think that a cheaper preparation is advisable. Half ground oats and half barley-meal is a suitable mixture; a cheaper one consists of one-third ground

their lives they are receiving 1oz. per bird per day. A tablespoonful of sulphur for every twenty birds should be mixed with the morning meal. A little green food supplied at midday helps greatly in maintaining the fowls in good condition, keeping the blood cool and the internal organs in good working order.

It is extremely important to withhold all food from the birds for twenty-four hours before killing, since this has the beneficial effect of improving both the flavour and the keeping properties. The simplest method of killing is by dislocating the neck, and it possesses the advantage that no blood is seen and that plucking can commence at once. The removal of the feathers should be done as carefully and expeditiously as possible, bearing in mind the important fact that while the body is warm not only do the feathers come out more easily, but there is less danger of tearing the skin.

Many of the birds that one sees upon the London market have their value greatly depreciated by reason of the fact that they have been dispatched to market before they were stone-cold. It is of the utmost importance that all the bodily heat shall have departed before the birds are packed, otherwise they arrive at their destination with their flesh soft and flabby and their flavour impaired. It does not matter very much what form of package is employed; the important point to bear in mind being that the box or basket should be packed quite full, for if the birds move about on the journey they run a grave risk of being damaged.

OLD HENS.

By J. W. HURST.

BIRDS that the modern poultry-keeper describes as old would scarcely have been so accounted by our almost immediate forefathers, but in a utilitarian age a hen is reckoned as old when she reaches the period which marks the division between profit and loss. This is more particularly the rule in relation to the cost of egg-production, and it consequently happens that it is a generally accepted principle of utility poultry-keeping that the age of two and a half years, or at the close of the third laying season, marks the average limit of a hen's profitable existence. It therefore follows that to continue the feeding of old hens is to produce a corresponding reduction of the profit that may be obtainable upon the egg-yield of such as have not arrived at the age-limit.

It unfortunately and frequently happens, however, that the elimination of the profit-reducing old hens coincides with a season of reduced values for such stock, and that the downward trend of prices is further encouraged by the unmarketable poorness of their condition. In effect it is the cupidity of the owner that is his own undoing, the endeavour to exact the final egg of the last profitable laying season leading to the retention of the hens (that are all but old) whilst their market value falls and the moult is perilously near—if not actually commencing. In the case of those small poultry-keepers who can stew their small proportion of hens that annually become



AN EXCELLENT HOUSE FOR FATTENING COCKERELS.

[Copyright.]

oats, one-third barley-meal, and one-third maize-meal, but it should always be remembered that maize-meal goes rather in the direction of forming fat than flesh. The meal or meals, as the case may be, should be mixed with skimmed milk, while the addition of a little fat increases both the quality and the quantity of flesh. At the beginning of the fattening period about $\frac{1}{4}$ oz. of fat per bird per day should be added to the food, gradually increasing the quantity day by day until the last day or two of

old, the difference is quite insignificant and scarcely worth any very serious consideration, but the circumstances of the commercial producer are quite different, the object is not the same, and the numbers are upon another scale. The market value of old hens depends chiefly upon weight, and it is almost unnecessary to say that their condition is unfavourable to remunerative sale at the close of the laying season and the beginning of the moult.

Experience is generally against the disposal of old hens through the agency of the higgler, and as a rule chicken higgler do not care to acquire too many of the old parent stock, although they will "oblige" those farmers from whom they collect chickens by paying them from 1s. to 1s.6d. each for their ancient birds. It must, however, be admitted that as these men not only have to bear the cost of collection and forwarding to market, but an intermediate period of fattening, their margin cannot be by any means exorbitant—particularly in view of the fact that their farming clients seldom clear their old stock until late in the season.

Another method of disposal is to supply the annual demand created by pheasant rearers, who are generally free buyers of old broody hens when the eggs of the game bird await incubation. Many farmers regularly avail themselves of this outlet for their old stock, especially in large game-preserving districts, and the gamekeepers' price for suitable hens (as regards broodiness) generally approximates to 3s. 6d.—I have known them to pay 5s. in an emergency.

With regard to the disposal of live fat old hens in the London markets it is, of course, very generally known that the chief influencing factor is the fairly constant demand of the Jewish community, and that the fluctuating values depend upon the periodical increase and decrease of the demand synchronising with the Festivals and the Fasts of the Hebrew rite. Relative to these facts it should, however, be noted that any table of averages must necessarily be affected, as regards particular corresponding periods, by movable feasts; so that, for example, there would be an important difference between the values for March and April, according as the Passover falls in one or the other. The range of possible dates for this Hebrew Feast extending from March 26 to April 25, it will be seen that without remembering the variability of such influences the indications of tabulated averages may be very misleading. Speaking generally, the prices increase from the beginning of the year until some time in March or April, and thence gradually decline and remain at a more or less fluctuating low level during the autumn, at which season the market is unreasonably swamped—when the best price would be low. This remarkable policy is followed year by year by the great majority of poultry-keepers, who send up large quantities of old hens to meet no particular demand, the bulk of their birds being either emaciated or in moult.

It should be added that it is the almost invariable custom to market old hens alive, and this for two important reasons. The demand for dead poultry is for chickens or young pullets, and the value of a whole consignment would be lowered by the inclusion of any old birds; moreover, the buyers of old hens are almost exclusively members of the Jewish community, by whose law killing must be performed by a duly appointed official, to the accompaniment of certain ceremonial.

TESTING EGGS.

By F. W. PARTON.

ONE of the reasons why the foreigner has secured so firm a hold on the English egg trade is that he has fully grasped the importance of marketing nothing but new-laid eggs. A fact that does not seem to be commonly known is that fresh eggs from abroad can be bought in London within three days of their being laid, and to compete successfully with this, and to obtain the highest prices, it is absolutely essential for the English poultry-keeper to dispatch his eggs to market with the least possible delay. It is unfortunately a fact that English dealers, in the majority of cases, are able to trust a foreign egg, whereas they are generally unable to place much reliance on the home-grown article. So much so is this the case that practically every large dairy company in London and other big cities tests all the eggs it receives in order to determine their freshness.

There are two reliable methods of testing an egg for freshness. The first method, and the one that is adopted by the leading distributing firms, is by means of what is called "candling." The egg to be tested is held before a lighted candle, or a small lamp, in a darkened room, when the internal appearance determines its age. It is really by the size of the air space that the age is determined. In a perfectly fresh egg the air space, which is usually situated on the broad end, is very small indeed: as age increases this air space gradually increases in size, owing to the evaporation of the contents through the multitude of small holes with which the shell is pierced. In a perfectly new-laid egg the air space occupies no more than one-twelfth of the contents, whereas in an egg that is three weeks old it occupies one-fifth or -sixth. The exact age of the egg can only, of course, be told by experience, since it is impossible to lay down any hard-and-fixed rules. Excellent small lamps are sold at quite a reasonable figure, which are specially adapted to the testing of eggs, or, instead of using a candle or a lamp, a small hole, the shape of an egg, can be cut in a shutter which is arranged to fix over the window. An egg held before this window can be easily and quickly tested. When adopting this plan, the room must, of course, be in total darkness.

The other method of testing is rather more elaborate but equally reliable. A solution is prepared, consisting of 4oz. of salt and $1\frac{3}{4}$ pints of water. The preparation is placed in a vessel, and the eggs to be tested are put therein. An absolutely new-laid egg sinks to the bottom, due to the fact that its density is greater, and consequently its buoyancy is less. An egg a day old does not quite reach the bottom; one that is three days old swims midway between the bottom and the surface; and so on until, when an egg is six days old, it floats upon the top.

It has often been remarked how excellent it would be were it possible to foretell the fertility of an egg before the process of incubation commences. I readily admit that it would be a tremendous boon, but so far as our present knowledge goes there is no means whereby it is possible to say definitely whether an egg is fertile or sterile until incubation has proceeded for twenty-four hours. There have been a great many theories advanced from time to

time in respect of this important matter. We need not trouble ourselves, however, about these theories, since they have all failed when put to the test.

The advantages of determining whether an egg contains the germ of life as early as possible in the process of incubation are many. In the first place, an egg that is tested and rejected on the sixth or seventh day is quite suitable for cooking purposes; as a matter of fact, it is probably in distinctly better condition than the bulk of the cooking eggs retailed in the grocers' shops. Then, too, testing for fertility economises space very considerably, whether the eggs are in an incubator or under a hen. Although this may appear an insignificant matter, it is really one of much importance, particularly early in the season.

Testing for fertility is very much the same as testing for freshness. The egg is held in the same manner before a lighted candle or a lamp in a dark room, but instead of looking at the air space one examines the centre of the egg. If it is fertile, a dark speck will be seen towards the broad end, with numerous blood-vessels radiating therefrom; in a sterile egg the contents are perfectly clear. The best time for making this test is on the sixth or seventh day, but an experienced person can often determine when an egg is fertile on the third or fourth day, while I know several "duckers" in the Aylesbury district who are so experienced that they are able to test successfully their duck eggs at the end of twenty-four hours. For ordinary purposes, however, the sixth or the seventh day is the most convenient time.

One of the difficulties that always has to be faced when incubating eggs artificially is that the inner and outer membranes—the two thin skins adhering to the shell—become extremely thick and tough, causing the chicken a good deal of trouble to pierce. In order to overcome, this difficulty, it is a very good plan to dip the eggs on the nineteenth day in water heated to about 100deg. Fah. This has the effect of softening these membranes, thus making the exit of the chicken more easy. Incidentally, this is useful as a test, for the eggs containing healthy chickens float upon the surface, distinct movements within the shell being noticeable, while those that contain dead chickens sink to the bottom.

TRAP-NESTS AND THEIR USE.

To the Editor of the ILLUSTRATED POULTRY RECORD.

SIR,—Mr. Leigh may rest assured that I was not attacking his views when I wrote on the subject of trap-nests, as my notes on trapping were jotted down long before the results of his laying competition were published.

Mr. Leigh has somewhat misunderstood my meaning on two points. The need for condensation perhaps led to some obscurity on my part, but the point on which I laid emphasis was that traps did not put pullets off *at starting*, as some practical men have believed. Mr. Leigh tells us that he had the right trap, that he did not handle the birds—and what happened? Why, out of all the number trapped only three were put off. For this corroboration of my contention that, if pullets are put off laying, then the fault lies with the attendant or trap, I am deeply grateful to Mr. Leigh. But he thinks that "*some birds*" were frightened, and did not do themselves justice. Into this vaguer

question of general fright I did not enter, as it is always hard to prove that a given pen would have done better in the same short space of time under other conditions. Were a wholesale stoppage of eggs to take place in the first few days, it might reasonably be attributed to the trapping. But there are always "*some birds*" so easily frightened that if we eliminate from the laying competitions everything that tells against them, then not only the trap-nest but the feeding-pail and the manager himself must go. My reason for wishing to retain all these impedimenta, including the disconcerting trap, is that the mere winning of a prize is by no means the only object in holding a laying competition. The trap is necessary to enable breeders to continue to breed from their best birds only, and to avoid including the indifferent as well in their breeding-pens.

In Australia the best breeders have attained to such purity of strain and evenness of production that once again Mr. Padman's famous birds have won (in New Zealand) with an average of 255 eggs in the year for each of the six birds. When we reach a similar evenness, perhaps the trap may not be needed at competitions.

Mr. Leigh quotes Mr. Palmer against me, but surely he must be aware that out of the fulness of our experience we are all perpetually contradicting one another, else what would be the need of all this poultry literature? One text-book would suffice for all times if we all agreed.

The second point to which Mr. Leigh takes exception is that "it is a usual thing that a pullet often ceases to lay for several days after starting." Mr. Leigh appears to have overlooked the use and meaning of the indefinite article. Thus, when I say that it is becoming quite "a usual thing" to see comets this year, I do not imply that it is the rule, and that those nights on which Mr. Leigh fails to notice one constitute the exception that proves the rule. All that I meant in the case of the pullets was that it has happened so often among my own untrapped birds, and those of my friends, that it cannot be fairly laid at the door of the trap if it happen in a competition. As the majority of my birds are closely related, the idiosyncrasy may be inherited, or it may be more common amongst the light breeds, but it certainly is not unusual. Press of work prevents my looking up the recording sheets of the competitions, but when I have time I will do so, and will let Mr. Leigh know whether or not any birds amongst competitors were put off.

May I take this opportunity to remonstrate mildly with the printer, who, in spite of my efforts to the contrary, insists upon saying that "a knowledge of the diseases of the hen is an economic advantage" (in trapping). What I tried to say was that a knowledge of the *desires* of the hen is an advantage, but the printer would have no such maudlin sentiment.—Yours, &c.,

A. S. GALBRAITH.

The Brussels Fire.

We regret to learn that the British Live Stock exhibit at Brussels was entirely destroyed in the disastrous fire on August 14. Although the exhibit was fortunately insured, the loss will be considerable, as breeders will not have the prominence given to their animals and birds during the remaining period the Exhibition is open.

SOME FEEDING PROBLEMS.

VIII.—FOODS AND THEIR CONSTITUENTS.

(Continued from page 546.)

AS we shall have to point out later, a food cannot be judged entirely by the proportion in which the various constituents are present, since some grains contain certain substances, included in the fats and carbohydrates, that render them less effective and useful than one would expect from their analysis. These special points will be duly noted later. As we have already mentioned, the palatability of the different foods must also be considered, if we are to make up good rations for our poultry.

It will be remembered that in the July issue we gave details as to the requisite quantity of total dry matter, ash, protein, carbohydrates and fat for birds. We propose to discuss the various feeding-stuffs in a similar way, showing the weight of each constituent present in every pound of the food.

It must be remembered that the analysis of these feeding stuffs will vary to a slight extent, but we have taken every care to obtain the average of a very large number of analyses from the published results of a number of agricultural chemists. In a few instances we have used our own figures, since there are certain substances that we have tested frequently. It has been found that those samples of grain that are lighter than the average weight contain a smaller amount of carbohydrates, or in other words, the nutritive ratio is slightly narrower. It is advisable, when purchasing, to secure the best quality obtainable with all grains and meal, with the possible exception of wheat. The more floury samples of this, besides being more expensive, are less suitable for the purpose than those that contain less starch.

As far as possible, we give particulars with reference to the percentage of the digestible constituents of each food, but unfortunately it is impossible to do this in every case, since such figures are not available. Those of which we are only able to give the total figures will be specially mentioned.

The following are the principal foods employed for feeding chickens and adult stock:

WEIGHT OF CONSTITUENTS IN EACH POUND.

Food.	Total Dry Matter.	Ash.	Protein.	Carbo-hydrates.	Fat.
Artichokes .....	.189	.01	.02	.155	.002
Barley .....	.688	.027	.077	.561	.023
Bean-Meal .....	.711	.031	.23	.436	.014
Brewers' Grains...	.15	.012	.039	.095	.004
Buckwheat .....	.538	.018	.068	.44	.012
Buttermilk .....	.099	.005	.03	.054	.01
Cabbage .....	.088	.022	.016	.05	—
Clover-Hay Chaff	.575	.062	.145	.346	.022
Dari .....	.851	.028	.1	.683	.04
Hemp .....	.619	.045	.122	.15	.302
Lettuce .....	.064	.01	.007	.047	—
Linseed .....	.711	.034	.172	.153	.352
Malt-Combs .....	.649	.068	.184	.38	.017
Maize .....	.725	.015	.084	.578	.048
Mangold Wurzel	.111	.008	.011	.091	.001

Food.	Total Dry Matter.	Ash.	Protein.	Carbo-hydrates.	Fat.
Meat-Meal .....	.818	.047	.634	—	.137
Millet .....	.582	.03	.095	.431	.026
Oats .....	.582	.027	.09	.418	.047
Oatmeal .....	.671	.068	.085	.482	.036
Peameal .....	.826	.035	.209	.554	.028
Potatoes .....	.239	.009	.021	.206	.003
Rice .....	.804	.005	.069	.727	.003
Rye-Meal .....	.703	.041	.106	.533	.023
Sunflower Seeds...	.607	.003	.111	.281	.212
Turnips .....	.083	.006	.013	.063	.001
Wheat .....	.689	.017	.117	.643	.012
Bran .....	.63	.056	.106	.444	.024
Middlings .....	.825	.029	.146	.616	.034

It will be noticed from the above that we have included a number of foods that are not usually employed for feeding fowls. We believe, however, that they are all suitable if fed in the proper proportion and in a suitable form. There is no substance mentioned that we have not used ourselves with successful results.

It will be possible for those who have followed all we have had occasion to say, with reference to feeding in this series, to realise the value of the various foods without any further remarks on our part, and particularly is this the case if they have had experience in feeding, and have noted the results obtained. For the benefit of those, however, who are new to the business or who have fed their poultry before by rule of thumb and in an unscientific manner, we append the following details :

ARTICHOKEs.—The Jerusalem variety are very good, not only for feeding, but if planted in the spring they provide capital shade for growing stock. The crop is usually prolific, and the tuber can be fed all the winter in place of the usual green food. If fed raw, it will be found that birds of all ages will eat them rapidly.

BARLEY AND BARLEY-MEAL.—These form two of the staple foods employed on most poultry-farms. They contain rather an excess of heat-producing material, but this can be counteracted by mixing with other foods.

BEAN-MEAL.—Suitable for narrowing the nutritive ratio, but should only be used in small quantities.

BREWERS' GRAINS.—Of use for adding bulk to concentrated foods for adult stock.

BUCKWHEAT AND BUCKWHEAT-MEAL.—These should certainly be used much more commonly than is the case at present. The whole grain is not only of use for chicken feeding, but also for larger stock. The meal should certainly be used, as it produces very good results.

BUTTERMILK.—For fattening purposes, it takes the place of soured skim milk and will be found to be good.

CABBAGE.—This, together with all vegetables, should be used largely. The necessity for green food is undoubted, and it should form part of the diet every day.

CLOVER-HAY CHAFF.—Suitable for mixing, after cooking, with the meals employed, for the warm mash.

DARI.—In the same way as buckwheat, this grain should be used more largely.

HEMP.—Used in dry chick feeds. Contains a considerable quantity of oil.

LETTUCE.—As for cabbage.

LINSEED AND LINSEED-MEAL.—These should be used on all occasions when birds are moulting, either when chickens are changing the down for feathers proper, or for older birds.

MALT-COMBS.—A good food if used sparingly.

MAIZE AND MAIZE-MEAL.—Should only be used in small quantities as they are too stimulating for general use. Used principally in the winter and for sitting hens. Can be added to dry chick feed with advantage.

MANGOLD WURZEL.—As for artichokes.

MEAT-MEAL.—Has excessively narrow ratio and contains no carbo-hydrates. Should only be used in small quantities to narrow a ratio and to give the necessary animal food to birds in confinement.

MILLET.—Suitable for chick feeding.

OATS, OATMEAL, AND GROUND OATS.—Very good foods indeed for all classes of stock..

PEA-MEAL.—As for bean-meal.

POTATOES.—Very fattening. Given cooked in winter in moderation, they are suitable.

RICE.—Used chiefly for chick feeding and cooked for ducks.

RYE-MEAL.—Good when given in a limited amount. The whole grain is not suitable.

SUNFLOWER-SEED.—Very good for chickens. These can also be grown for shade, as was suggested with Jerusalem artichokes.

TURNIPS.—As for cabbage.

WHEAT.—The lighter quality is good, but expensive. The analysis we give on previous page is for the second quality.

BRAN.—Contains a large quantity of fibre, but suitable when feeding with highly concentrated feeding stuffs.

MIDDLEDINGS.—One of the chief meals used and should form, with barley-meal, the principal material for soft mashes.

In the following issue we will show how these different foods can be mixed so as to supply the requirements of all classes of stock under varying conditions.

(To be continued.)

REVIEWS.

A FRENCHMAN'S SURVEY.

LA CRISE ET L'EVOLUTION DE L'AGRICULTURE EN ANGLETERRE DE 1875 A NOS JOURS. Par Dr. Pierre Besse. Paris : Félix Alcan, 390 pp., 10 francs.

A PART from its political and economic views, which do not concern us here and now, but upon which much might be said by way of criticism, this work by Dr. Pierre Besse is of the deepest interest, revealing as it does the way in which the developments of the last thirty-five years are regarded by a foreign student. Basing his observations on what Arthur Young said in 1790, that everywhere the soil of France was superior to that found in England, he records that the methods of cultivation adopted "has transformed this naturally ungrateful soil and made England a

veritable garden." The effect upon agriculture of the disastrous drop in prices in the 'seventies is clearly traced, leading as it has to the development of those minor branches, such as poultry-keeping, which have proved more profitable than corn-growing, and a high tribute is paid to the resourcefulness of the Britishers, who have made their difficulties the stepping-stones to greater altitudes than they ever reached before. For it cannot be doubted that British agriculture is in a highly prosperous position, with prospects which are rooseate in the extreme.

Naturally we turn to the excellent section devoted to the development of the poultry industry, in which the remarkable progress of the past decade is fully recognised. That was to be expected from a French student, for across the Channel poultry at one time held a much more important position in agriculture than was the case with us. Formerly France was held up as the great exemplar, and some, at least, of the progress made is due to her influence. If the pupil has gone beyond the master, it may be due to national character as well as to the momentum of progression. In his observations, Dr. Besse has drawn largely from the POULTRY RECORD as well as other sources, and he pays tribute to the efforts of the National Poultry Organisation Society and the Utility Poultry Club in Britain and the Irish Agricultural Organisation Society in Ireland.

Whilst, therefore, not committing ourselves to the economic conclusions arrived at by the author, we cannot but feel that this work will have a marked influence upon French agriculturists, and we welcome it for its recognition of the important place held by poultry in the evolution of our great national industry.

CYCLING SPINS IN BEECHY BUCKS.

CYCLING SPINS IN BEECHY BUCKS. By T. W. D. Smith. Published under the auspices of the Great Central Railway Company. London : R. T. Lang, Ltd. 2d.

THIS little guide can fairly claim to be "unique." It gives a series of itineraries through the most interesting places and most picturesque parts of Buckinghamshire, tersely described in the usual road-book method, but illustrated by a really useful set of photographs. The latter, which cover the ground completely, are arrow-marked to show the road that should be taken—an excellent device which renders the carrying of a map practically unnecessary. Besides this, there are brief chapters appended upon the places of interest encountered on the routes. The journeys are so planned that both the starting and finishing points are invariably places served by the Great Central Railway system, and it is one of the advantages of cycle touring in this neighbourhood that the London rider and his machine can be transported by this company, at extremely low rates, to and from his touring ground, thus avoiding the wearisome and nerve-disturbing ride through the traffic of the metropolis. The routes, it may also be noted, are chosen, so far as possible, with a view to avoiding motor traffic. Copies of this booklet can be obtained (post free for 3d.) from the Publicity Department, Great Central Railway, 216, Marylebone Road, N.W.

NOTES FROM CORRESPONDENTS.

YORKSHIRE NOTES.

By F. W. PARTON.

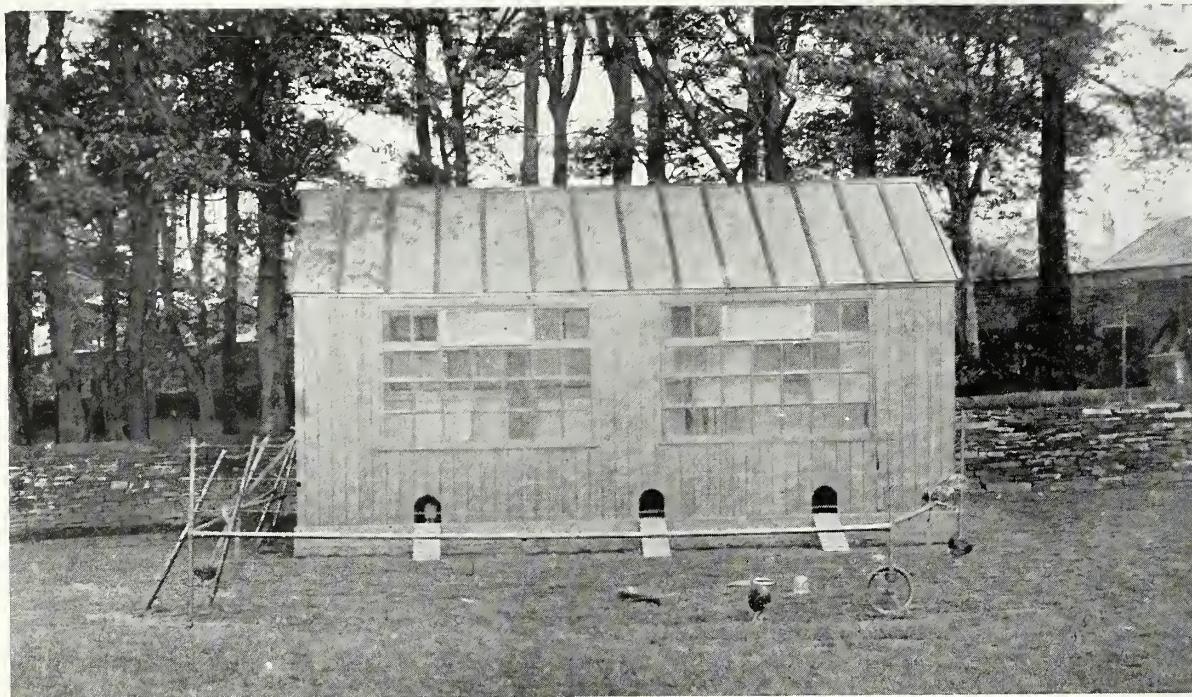
THANKS to the courtesy of Mr. Robert Armitage, M.P., I had the privilege of visiting his poultry farm at Farnley Hall, near Leeds. It was highly gratifying to find a large number of chickens—upwards of one thousand—in splendid condition, which testify to a successful season, despite the unfavourable weather of the early months of the year. Part of the farm is very bleak and stands at an elevation of 400ft., but the housing accommodation is excellent, and Mr. Armitage fully realises the importance of adequate shelter, which is abundant. Hence the severity of the exposed situation is not felt to the same extent as if this necessary addition were not provided. One of the most interesting features is the range of houses for the general laying stock; these are constructed on the scratching-shed principle and are furnished with two sets of runs for alternate use, which minimises the danger which might ensue from continual occupation.

Trap-nests are used in all the breeding-pens, and the best layers are thus rigidly selected for future use. All birds that do not attain to "excellent" as to number of eggs produced are disposed of at the end of their first laying year. This method may be open to question, as sometimes the moderate laying pullet is remarkably

In a sheltered position stands a brooder-house, capable of holding several hundred chickens. This brooder-house was originally of the ordinary type, but has gradually been evolved, by the inventions of Mr. Armitage, until it possesses advantages I have never seen in any other form of brooder. The healthy appearance of the chickens bears witness to the efficiency of ventilation, light, and space, which are all very important factors in successful rearing. A cluster of several brooders is placed out in the open, surrounded by a very ingenious arrangement of fencing on wheels, with a strand of barbed wire at the top for protection against cows; the chickens are in nowise cramped for space, since the bottom bar of the fence is sufficiently raised from the ground to enable them to pass underneath.

The breeds of fowls that are kept at the present time at Farnley are Black Leghorns, Danish Brown Leghorns, Minorcas, Anconas, and Buff Orpingtons. As eggs are the chief commodity in demand in the West Riding, it will be seen that the selection of breeds has been a wise one. Everything is conducted on up-to-date lines, and the enthusiasm of Mr. Armitage in poultry-keeping has undoubtedly had an influence for good in the district.

I have recently been staying in one of the most charming districts of Yorkshire, in the valley of the Yore, and I have had an opportunity of studying the poultry industry in these parts. Wensleydale, which extends from the small hamlet of Wensley to the small and picturesque town of Hawes, consists almost entirely of pasture. I have no figures to go upon, but I would judge from observation that there is less than a hundred acres of arable land in the whole of the fifteen miles. The opportunities for the advancement of the poultry industry in this particular locality are enormous, but, as



A COLD BROODER-HOUSE AT FARNLEY HALL, SHOWING MOVABLE HURDLES. [Copyright.]

prolific as a hen, and per contra, the heaviest laying pullet frequently fails to uphold her reputation when in her second year. However, be that as it may, the tendency must be towards the elimination of the drones.

Portable houses are also employed, but these are devoted to growing stock, and the exercise and continual change build up a good robust constitution against the time when they have to occupy the greater restrictions of the breeding-pen.

yet, no one seems to have realised how vast these opportunities are. Unlike many of the other Yorkshire Dales, Wensleydale is excellently served by a branch of the North-Eastern Railway, connected with the main line at Northallerton and with the Midland main line at Hawes, and thus the distribution of the produce presents no difficulties whatever. There are many districts in this county that are excellently suited to poultry in everything save railway facilities; the absence of such

means that the industry can never extend to any great extent, as the cost of collection and distribution swallows up so large a proportion of the profits. So far as Wensleydale is concerned, however, it is, as I have already indicated, very conveniently situated as regards railway facilities; as a matter of fact, there is no village, probably no farmhouse, in the district more than two and a half or three miles from a railway station. The thing that is wanting, perhaps, as much as anything else, is or-

fertile, while both the chickens and adult stock were healthier.

The annual show of the Yorkshire Agricultural Society, which was recently held at Leeds, again proved very successful. The weather was fine, keen competition existed in all classes of stock, and the attendance was a record one. It is only three years ago since poultry were included in the Yorkshire Agricultural Society's Show, and yet the entry this year amounted to 487, an increase of 76 on that of last year. It is im-



OPEN-AIR SCRATCHING-SHEDS AT FARNLEY HALL.

[Copyright.]

ganisation. As I shall show presently, poultry-keeping itself is in a backward state, and only a very small proportion of the farmers and small holders have realised their opportunities; it must be remembered in this connection that some incentive is needed to encourage them to develop, and there can be no greater incentive than a proper and complete system of collection and distribution—that is to say, organisation.

At very few of the farmhouses is there to be seen really good stock, while in many instances the birds are of the veriest barndoors type. The prevailing breeds would seem to be the White Leghorn, the Buff Orpington, and the Black Minorca; an occasional flock of Wyandottes is to be seen, and a very occasional pen of Plymouth Rocks. Very little indeed is done in the way of winter egg-production, and yet I think that this is a branch that is excellently suited to the poultry-keepers of Wensleydale. The accommodation provided for the fowls cannot by any stretch of the imagination be termed first-class. Very often, indeed, the poultry share the same barn as the cattle, a plan that possesses few advantages and very many disadvantages. In a few cases housing is carried out on up-to-date lines, but, in the great majority of cases, I think there is much room for improvement. One excellent feature to which I would draw special attention is the very extensive adoption of the colony system of housing, a system that may be confidently recommended to all those who possess sufficient space. The colony houses in common use are, as a rule, of an excellent design, and I was told by one large farmer that, since he had adopted this plan, he had been remarkably successful with his poultry. His hens were more prolific, a larger percentage of the eggs were

possible, of course, to give any description of the exhibits, but I think I may safely say that the quality of the birds, on the whole, was superior to that of previous years. The show of table-poultry was extremely good. There were six classes provided for chickens, but as several of these contained only two or three couples, competition was not particularly keen. The ducklings on the whole were not very satisfactory. Two demonstrations were given on each of the three days of the Show in the dressing of table-poultry.

IRISH NOTES.

By MISS MURPHY.

TRUSSING competitions have for many years been a feature of agricultural shows in Cork, and this year, when judging a class of twelve competitors at Skibbereen, I was struck by the neatness and speed with which the work was done and by the intelligent comments of the interested crowd of onlookers. It is not alone that competitors are less nervous and awkward than in former years, but they handle the birds in a manner that gives one the impression that they are accustomed to do such work, and that they would be quite capable of marketing chickens in an attractive way. Each competitor brings a chicken already killed, plucked, and shaped, the shaping being usually done in the Devonshire way, as they have been taught by the itinerant instructor. At the larger shows, knives, boards, needles, and string are provided, at the smaller fixtures competitors are requested to bring their own. A very

noticeable improvement is apparent in the dress worn by competitors. They come now dressed in big aprons or overalls, and many of them wear white sleeves to protect the blouse underneath. Personally I do not care for these white sleeves, as I like to see a competitor with her sleeves turned well back to the elbow; she looks better and more workmanlike.

The scale of points officially recognised in judging is as follows:

Preparation and Drawing	25
Neatness and Style of Work	20
Trussing and Finished Appearance	30
Speed	25
	—
	100

It will be noticed that most marks are given to finished appearance, as although speed is an essential qualification of a good worker, it must not be attained at the expense of the finished appearance. The time taken by the winners varies from three minutes to as many as nine: very few competitors exceed a speed of twenty birds per hour, and the average is rather lower.

Some of the competitors use new knives at shows, and this, unless they have been accustomed to use sharp knives, is rather a dangerous practice, since they are far more liable to cut themselves when working in public than at ordinary class work. For many years I have dressed such cuts with Friar's Balsam, and have not had even one case of septic poisoning. The balsam is applied undiluted, and, if rather a drastic remedy, is certainly a very effective one.

in filthy houses, nests, &c., than in places which are kept clean. So by strict and regular attention to the keeping of fowl-houses in a clean state poultry-keepers can easily combat their attacks, and, in fact, keep them away entirely.

The perches, nest-boxes, and other fittings should be movable, and should be made of planed wood having no cracks or bad joints. All fittings and the walls of the houses should be thoroughly lime-washed four times a year with a preparation of lime, petroleum, and water. The floors of the houses should be cleaned out two or three times a week, and the material which forms the nests should be frequently renewed. The free use of air-slacked lime on the floors of houses, and also dusted into the nests, will have a good effect in keeping off these pests. The most effective method of dealing with these species of insects which live permanently on the bodies of the poultry is to provide the fowls with a suitable dust-bath. This may be furnished by filling a large box with a mixture of dry earth, ashes, lime, and sulphur, and placing it under cover of a shed in the fowl-run. There are several powerful insecticides in the form of fluid and powder which may, with advantage, be used, and which it is often necessary to use when the precautionary measures explained above have not been adopted, and both houses and fowls have become infested by vermin.

EXTERNAL PARASITES OF POULTRY.

THE evil effects which parasites or insect vermin exercise on the health and condition of the poultry of all kinds which they prey on are much more serious than many poultry-keepers imagine, and this is probably the reason why so few poultry-keepers take measures to prevent their attacks and keep their poultry free from them. Fowls, turkeys, ducks, geese, and, in fact, all birds, are attacked by and suffer considerably from the attacks of insect vermin of one species or another. Growing birds and those which are hatching suffer most, but at all stages of their existence poultry are more or less liable to be troubled by these pests. Growing birds, whose bodies are infested with vermin, suffer ill-health, are retarded and stunted in growth, and do not attain a good size. Laying or breeding stock troubled by insect vermin are also unhealthy, they do not lay as many eggs as they should, and the eggs are often infertile, or produce chickens which are weak. When hatching birds are attacked by insects, they neglect their incubating duties, fail to keep closely to the nests, and very often forsake the eggs long before they are due to hatch. From this cause large numbers of eggs are lost all over the country every year.

There are several distinct species of insect vermin, or parasites, of poultry, some of which reside permanently on the bodies of the various birds; others hide during the daytime in the cracks and crevices in the walls and woodwork of houses, and come forth at night to prey on the bodies of poultry by sucking their blood. They lay their eggs, and their young are hatched in these places of abode, and in that way they multiply very rapidly. Parasites seem to live and thrive better

"MONEY IN REDS."

THIS is the title given to the catalogue of the De Graff Poultry Farm, Amsterdam, N.Y., which is undeniably one of the most striking productions of its kind in the world. An account of Mr. De Graff's famous establishment of Rhode Island Reds, written by Mr. Will Brown, appeared in our issue of August, 1909; and readers who wish to gain an idea of what a big American poultry plant means should read both this article and the supplementary information that is to be found in this handsome catalogue. The latter is written in racy English—perhaps one should say American—and besides the usual trade information, contains useful articles on the breeding and management of Reds. As a "picture"-book, it has no equals, so far as we can recall. Quaint and effective ideas in design, excellent landscape views, and colour work are here in plenty. The colour reproductions, indeed, are a marvel, from the cover onwards, that showing the "Ideal Colours of R.C. Rhode Island Red Male" being a particularly beautiful and refined piece of realistic work.

Messrs. Spratt's Patent.

The adjudicators of the Japan-British Exhibition have awarded to Spratt's Patent, Limited, the Grand Prize for the superior excellence of their dog, poultry, and cage bird foods, which is doubtless gratifying to that company owing to the fact that their products were in competition with others.

ANSWERS TO CORRESPONDENTS.

The Editor will be glad to hear from readers on any Poultry Topics, and all Queries addressed to the paper will be answered if possible in the issue following their receipt. The desire is to help those who are in any difficulty regarding the management of their poultry, and accordingly no charge for answering such Queries is made. Unless stated otherwise, Queries are answered by

F. W. PARTON,

Lecturer in Aviculture, The University, Leeds.

Egg Eating.

Please will you tell me what is a good cure for a hen eating her eggs?—E. S. (Trowbridge).

There are several ways of breaking hens from this very vicious habit. One of the most effective is to use a nest so constructed that the eggs roll out of sight as they are laid. There are several poultry appliance makers who supply such nests at a reasonable price. We have testimony as to the efficacy of the American method of treatment which is as follows: Put the hens so addicted in a run by themselves, and feed them with nothing but egg-shells—the two half shells from which the contents have been removed. After two or three days of this diet the hens are so surfeited that eggs no longer appeal to them. Cheap cooking eggs may always be obtained for the purpose.

An Impossible Query.

One of my hens died suddenly last week, although she seemed in excellent health and condition. I cut her open, and she looked quite healthy. Can you tell me the cause of her death?—H. C. P. (Whitstable).

It is quite impossible to attempt an answer to your question with the scant information you give.

A Useful Litter.

What is the most suitable litter for a small poultry-house? I generally use hay chaff, but the house soon smells unpleasant.—P. R. M. (Bradfield).

Peat-moss litter is probably the best bedding for a poultry-house, as it lasts a long time, and, being absorbent, retains the ammonia of the droppings, and is thus valuable for manurial purposes. In the absence of peat-moss, which sometimes is rather difficult to obtain, chopped straw, or dry earth, makes an excellent substitute. In fact, almost anything may be employed, so long as it can be easily renewed when required.

Egg Production.

What is a good average number of eggs for a hen to lay in a year? Some people say that a good hen will lay 200, but I have never had a bird to produce more than half this number.—F. S. T. W. (Rotherham).

Hens vary to a tremendous extent in this direction, not only as to breed and strain, but as to individual capacity. We have known of a hen that produced 200 eggs in a year, but such cases are very few and far between. Speaking generally, we would say that an average of 130 to 140 is an exceedingly good one.

Double-Yolked Eggs.

I have a hen that frequently lays an egg containing two yolks. Can you tell me how I can cure her of the habit? Are such eggs any use for hatching?—B. T. (East Ham).

Double-yolked eggs are generally produced by hens that are too fat internally, or the food may be of such a stimulating nature that the ova are ripened too rapidly. The best remedy is to discontinue all soft food, and feed very sparingly on hard corn—oats for preference. Do all possible to retard laying, and by the time the next egg is ready to be laid the organs will have gained the necessary strength to produce eggs of a normal nature. No; such eggs are no use for hatching purposes. Chickens have been hatched from double-yolked eggs, but freaks are usually the result.

Duration of Moult.

About how long do year-old hens take to complete their change of plumage, and when is the best time for the moult to take place? Is special feeding necessary during the process?—R. A. M. (Bridgewater).

The duration of the moult varies to a considerable extent, but in a year-old hen, properly fed, you may reasonably allow two months to complete the process. Early moulting is a distinct advantage and should be encouraged; feeding on a low diet will appreciably hurry it on. Nothing of a fattening nature should be given during the period, but everything of a strengthening character, such foods as pea or bean-meal, meat scraps, middlings, oats, and wheat, and any quantity of green food. These are all nitrogenous, and materially assist in the formation of the new feathers.

Hatching Dates.

Please inform me through your valuable paper the date that Buff Orpington chickens should be hatched in order to lay next winter. Also the date to hatch Aylesbury-Pekin ducklings to have them ready for the spring markets. At what age should the latter be ready for killing?—A. T. (Sudbury).

Buff Orpington chickens hatched in March and April may be relied upon to lay in winter. To be ready for the early spring markets, the hatching of ducklings should commence in December and continue until March. Ducklings should be killed when they are nine or ten weeks old—that is, before their "stubb" feathers grow. Unless they are killed at this age, they must be kept several months longer before they are again in the same edible condition.

Starting Poultry-Farming.

I am anxious to take a small farm next September, and I thought of commencing poultry-farming in a small way. There are about five acres of good meadow land, and one and a half acres of wood. The land is situated about twenty-two miles from London on a main line, so what do you think would be the best branch for me to take up? I intend to run the farm myself, at any rate, at first. I should like to try egg-production, but I know very little about it. Would five acres be enough to start on, and if so what breeds should I keep?

and how many should I start with? Your help will be much appreciated.—R. W. B. (Finsbury Park).

Many of the points raised by your query are dealt with in an article entitled "Poultry-Keeping as a Business," published in the POULTRY RECORD for May, 1909, of which it would be desirable for you to obtain a copy and study carefully. That may or may not meet your case. First and foremost it would be unwise to commence such a venture as a means of livelihood without experience, and that should be gained elsewhere than on your own farm. If, however, you have income independent of it, and only desire to add thereto, the whole aspect of affairs would be changed. Under such circumstances there is no reason why you should not ultimately succeed with knowledge gained and perseverance, but the issue is very doubtful in poultry-keeping alone if it were to be your only means of livelihood. The branch to be taken up would depend upon the district and the nature of the soil. With such information, we shall be glad to advise you further.—E. B.

Results of Duck-Breeding.

I have one Aylesbury duck, one Pekin, one Aylesbury-Runner first cross, with one drake (Aylesbury-Runner first cross), four birds in all, hatched May 4, 1909. The Aylesbury-Runner duck commenced to lay on January 14, 1910, and continued until June 15 without one day's break; then it stopped laying for four or five days, then started again, laying sixteen more eggs, making a total of 168 eggs in 173 days. It has not laid any since. They tell me round this district that this result is extra good. The other two ducks laid 203 eggs between them (the Aylesbury 101 and the Pekin 102), making a grand total of 371 eggs in 172 or 173 days from three ducks. Is this a record? I set altogether 52 eggs, and got 40 young ducks out. Nearly all the other eggs were sold for setting, and the buyers tell me they have had wonderful good luck. Do you think it will be worth while keeping the same four birds another season, as I have reserved three ducks and one drake from my young ones, which were hatched on May 4 this year—the very day the old ones were one year old? Two shellish eggs have not been counted in.—G. L. (East Grinstead).

The record you give is indeed remarkable, and especially for the Aylesbury-Runner duck, upon which you are to be congratulated. We have come across many instances of great productiveness from birds so bred, but do not remember anything so good as this. Although you are not likely to obtain anything approaching this result in the second year of the same birds, probably you would find it desirable to keep the three ducks for breeding, so as to carry on the influence, if that be possible. But in that case it would be wiser to obtain either a pure Aylesbury or Runner to mate with them, or, what would be simpler, if you obtain a pure male, he might be mated with the Aylesbury-Runner duck and a couple of the young ones, using only the eggs of the former for hatching.—E. B.

Poultry Fattening.

I was much interested in your article by J. W. Hurst, on "The Supply of Lean Chickens," as I had already been thinking of starting a poultry farm principally to supply these. I have been a pupil on a large poultry farm, and have also had some experience in rearing chickens. But I should be glad to know how I can tell what to charge for the chickens, as otherwise I am in the hands of the

fattener or dealer. I am very vague as to business details, and should be glad of any information as to how to sell either chickens or eggs. Where I have been they do not sell either *for eating*. I should also like to know how much land would be required to get a living by it and by selling eggs. I think I could command sufficient capital.

T. B. S. (St. Mary Cray).

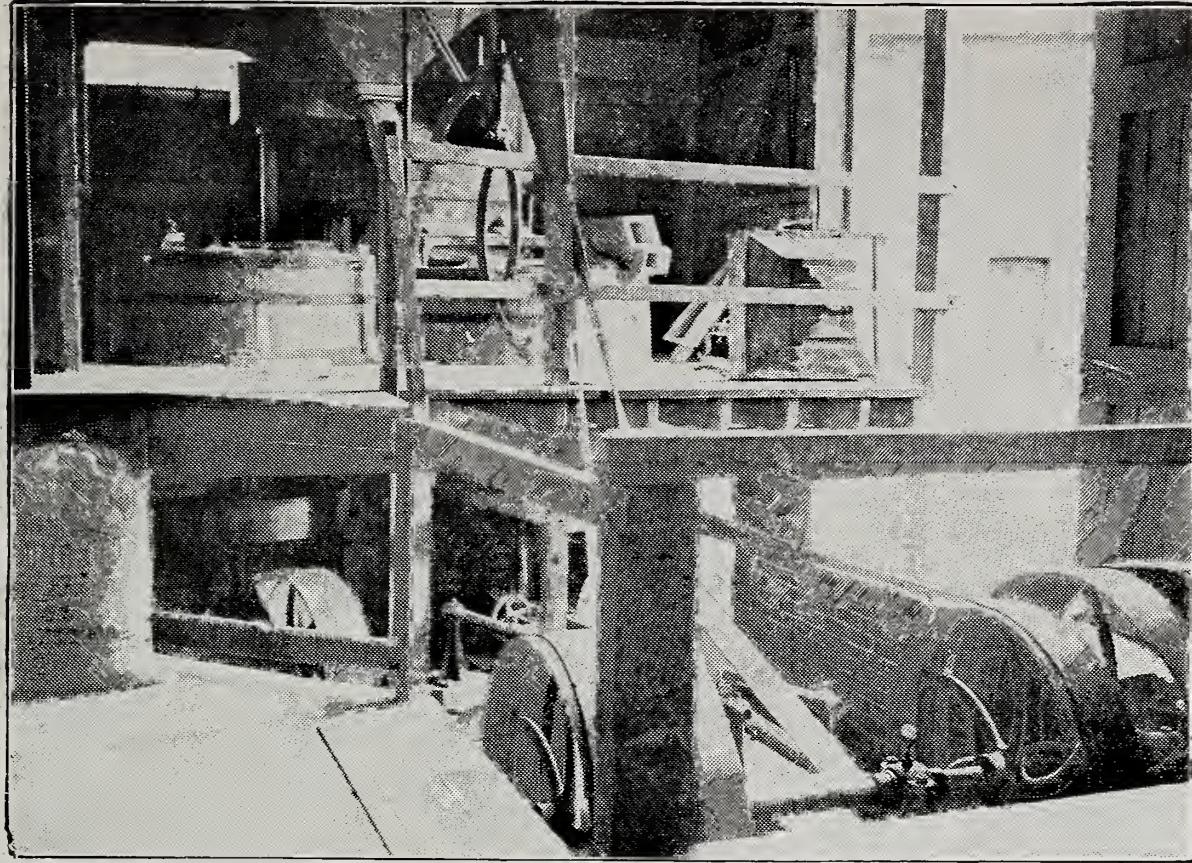
The approximate prices paid by the fatteners for lean chickens are: January, 2s. 3d. each; February, 2s. 6d. to 2s. 9d.; March, 2s. 9d. to 3s.; April, 3s. 3d. to 3s. 6d.; May, 3s. 6d. to 3s. 3d.; June, 3s. to 2s. 9d.; July, 2s. 6d. to 2s.; August, 2s. to 1s. 9d.; September and October, 1s. 9d.; November and December, 1s. 9d. to 2s. To secure these prices it would be necessary to produce the birds within easy reach of the fattening centres, and the marketing of eggs should be through a dépôt or under the guidance of the National Poultry Organisation Society. Relative to the possibilities of this production as an aid to a "living," read the article entitled "Poultry-Keeping as a Business," in the May, 1909, issue of this magazine; and "Poultry-Keeping as an Industry" (see advertisement in this number).

Short Replies.

- S. T. (Edmonton).—See advertising pages.
- E. L. (Stanmore).—1. No. 2. No. 3. Yes.
- F. W. P. (Upper Norwood).—From 12in. to 15in. high.
- W. W. R. (Salford).—May, 1909. Price 11½d., post free.
- T. E. (Hexham).—We should recommend a cross in your case.
- L. R. T. (Eastbourne).—Aylesbury or Pekin, preferably the former.
- E. J. T. (Bexhill).—"Poultry Fattening," by Edward Brown, F.L.S., price 1s. 2d., post free, from this office.
- M. L. O. (Rochester).—The *Feathered World* Year Book, price 1s. 4d., post free, from 9, Arundel Street, Strand, W.C.

OAT GRINDING IN SUSSEX.

THROUGHOUT East Sussex there are innumerable mills that are picturesque in appearance and setting, in addition to being primitive in construction and methods of working. These old-fashioned mills have, however, served their turn, in that they have made Sussex famous for that special product of milling which is now so generally recognised as the most useful meal for the general purposes of the poultry-keeper. Sussex ground oats—or, in other words, oats as ground in Sussex—are, as a matter of fact, so well known nowadays (by repute if not by use) that any description of the distinctive qualities of the meal so described must be to some extent superfluous. However, lest any be misled—as is undoubtedly sometimes the case—by coarse imitations of the genuine article, it may be of value to reiterate the peculiar characteristics of this useful meal. To put the chief facts as briefly as possible, oats ground in Sussex are ground in their entirety—in contradistinction to oats that are ground in the ordinary way with the husks sifted out. Not only is the husk ground with the kernel, but the grinding is so uniformly and perfectly performed that the meal is of a flour-like fineness; the properties of the whole are thus rendered available, and a much greater proportion is digestible. This result is only attainable by the use of the millstones dressed, or prepared as regards their grinding surface, in the manner peculiar to the districts concerned in the production. The process is relatively slow and expensive, the stone dressing being necessarily performed by hand. The labour is in the hands of a comparatively small number of skilled workmen, who have served the long apprenticeship essential to the mastery of the art. A



LATEST METHOD OF DRIVING PLANT AT THE RYE MILLS.

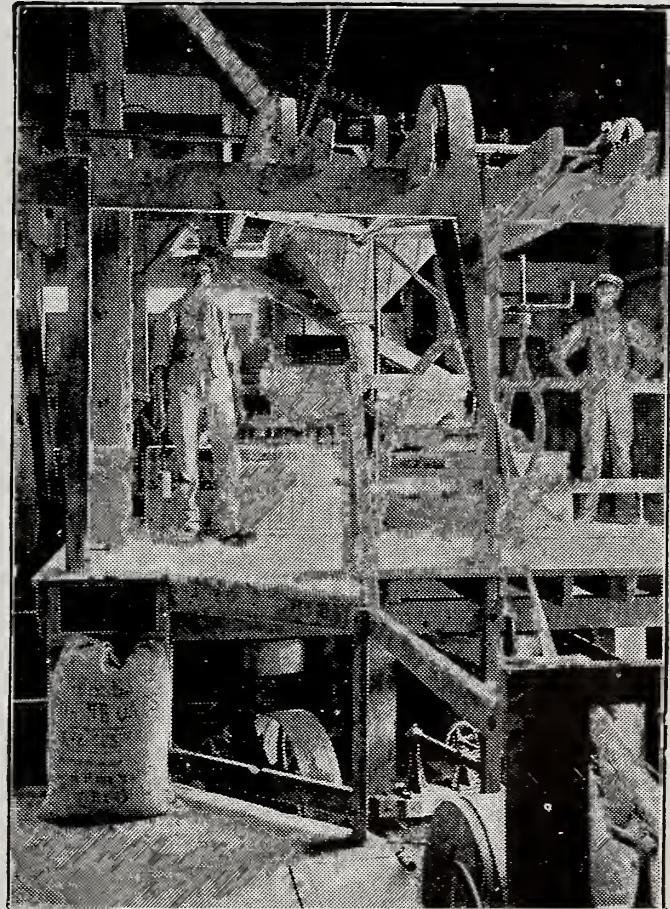
stone in regular use requires dressing every three days, and a man can only dress or sharpen one stone in a day. These facts go far to prove the cost; nevertheless the process so enhances the feeding value that the meal is a most economical food—particularly for the rearer and the fattener of chickens.

So satisfied are feeders with the results attainable by the use of Sussex ground oats (which, by the way, in itself approximates so nearly to the ideal nutritive ratio of the text-books) that the demand has now spread far beyond the confines of the area originally served by the old-fashioned village mills, and the installation of improved machinery has become essential to the continued prosperity and increase of this interesting branch of milling. Some two years ago the courtesy of Messrs. Albion Thorpe and Sons enabled us to visit their up-to-date oat-grinding plant at Rye, but so greatly have their requirements in this branch of their business increased that they have now doubled the capacity of their output, and we were recently permitted to repeat our visit and inspect the additions and improvements. At the Rye Mills there are now four pairs of stones used entirely for oat-grinding, working in two sets at either end of the building devoted to this one purpose, the building being separated from the main factory (in which are the crushing, mixing, and grading machines used in the other preparations of game and poultry foods) on account of the risk of fire that is involved in the process. These four pairs of stones are kept regularly at work the year round, and the mill now has a capacity equal to a weekly output of anything up to forty tons. The recent improvements are of the most elaborate and labour-saving description, including a perfect system of elevators by means of which the oats are fed to the stones and the meal conveyed to the sacks, which are automatically filled. In every direction is labour saved to an astonishing extent, save only in the dressing of the stones, in which particular there is nothing to distinguish the method from that of the old wind and

water mills in which the process was originated. No machine has been invented to dress these stones as only a Sussex man can do—and very few of them—and the retention of the old stones and manner of dressing is vital to the preservation of the distinctive characteristics of the product. But the perfected plant installed by Messrs. Thorpe makes it possible for them to run their stones at the high speed of two hundred revolutions per minute by means of Crossley's gas-engines and suction gas plant, the difficulty of the generated heat being overcome by means of a patent fan drawing off the hot air.

In the one illustration the latest method of driving

is shown, and in the other the new set of two additional pairs of stones with a portion of the system of elevators, &c.



AN UP-TO-DATE GRINDING PLANT.

MARKETS AND MARKETING.

Week Ending July 23.

The trade in poultry was dull, being much affected by the weather conditions and the approach of the annual holiday season. All classes of poultry were equally affected. Capons and Petits Poussins were in fair demand. The public tired of ducklings, which were selling at low values. Trade was in favour of buyers.

The trade in foreign eggs was firmer at advanced prices, there being less difference between the real and nominal prices. There was a fair demand for Calais browns, but they changed hands below nominal values.

On the Manchester markets trade was firm with advancing prices. Danish 18lb eggs were realising considerably higher value than were the best Irish, while similar conditions ruled at Birmingham.

The strike on the North-Eastern Railway had a very demoralising effect on the provision trade on the Newcastle-on-Tyne market, large quantities suffering serious deterioration. The demand for English and Danish eggs was very firm indeed.

The demand for English eggs, especially at seaside resorts, was very good at a fair average of values ranging from 10s. to 11s. 6d. per 120.

Week Ending July 30.

English poultry were very cheap and plentiful, and trade was slack. Ducklings were abundant and cheap. As was the case the previous week, capons and Petits Poussins met with fair demand. Goslings also met with favourable reception. The West-End trade fell considerably. The trade for foreign eggs remained much the same as during the previous week. In some instances prices ruled weaker. Danish were very plentiful. Dutch eggs were in poor demand, being heated, as were also a large proportion of Russian. Quotations on the Liverpool markets for Irish eggs ranged 9s. 6d. to 10s.; values continued to advance on the Manchester markets for all classes of provisions. The price of Irish eggs advanced at Cardiff, Birmingham, Newcastle-on-Tyne, Glasgow, Greenock, Leith, and Hull. English eggs in good request on all sides. The imports of foreign eggs during the week amounted to 427,773 great hundreds, poultry to the value of £1,890, and game £30.

Week Ending August 6.

Business was slow on the London markets, the holiday season being in full swing. All classes of poultry were cheap and plentiful. Capons still remained popular. Poussins met with fair reception.

The trade for all classes of Continental eggs was slacker than last week and values receded by about 6d. per 120. Best French sold slowly, and Italians were in poor request, as were Danish. On the Liverpool markets the demand for Irish eggs was much checked owing to prices being forced up by dealers, and Continental eggs sold more freely. Irish eggs were 3d. up at Cardiff.

The quantity of foreign eggs received during the week amounted to 391,905 great hundreds, poultry to the value £1,403, and game £132.

The demand for English eggs was very firm, especially at holiday resorts.

Week Ending August 13.

Stagnant is the word which properly describes the tone of the London markets during the week. Although prices dropped, demand fell considerably. The only bright spot to be found on the markets was the advent of the first consignment of grouse. The usual rumour went round that the first pair to arrive sold at £1 1s., but I failed to discover who received them. As it happened, no birds were received on the 12th. By the 17th inst. grouse, both good and young, could be purchased at from 2s. to 3s. each.

Foreign eggs receded in values on the London markets, French meeting with indifferent sales, although nominal values were not reduced. Trade in Irish eggs was extremely slow at Liverpool; they were also cheaper at Cardiff, Manchester, Birmingham, Newcastle-on-Tyne, Glasgow, Leith, and Hull, but they were steadier at Greenock.

The number of foreign eggs received from abroad amounted to 423,538 great hundreds, the value of poultry to £2,980, and of game £316.

The demand for English remained firm.

ACCELERATED SERVICES FOR FRENCH AGRICULTURAL PRODUCE.

BI-WEEKLY EXPRESSES.

THE Great Western Railway Company have of late very considerably accelerated the boat services from Brest and Nantes in Brittany. It is now possible for the French producers of eggs, butter, and poultry to get their produce from Nantes to the London markets twice weekly, the whole journey occupying only thirty hours. The sea journey from Nantes to Plymouth occupies about twenty hours, and from Plymouth to Paddington, by special goods train, eight hours fifty minutes. The service has been so arranged that the goods arrive at Paddington at 2.50 a.m., and are thence dispatched to the Central Markets in time to catch the 5 a.m. market. Should there be a delay on the sea journey, there is another train from Plymouth timed to arrive at Paddington at seven in the morning. Even then the goods get to market in time for the eight o'clock market. Should any long delay occur at sea, if the ship contains sufficient quantities of produce, the company will run a special train in order to get the goods to London as quickly as possible. On the Brest route the time occupied is about twenty-one hours, twelve on sea and between eight and nine on land. With these special facilities the French producers are able to get their eggs and poultry to our markets in prime condition. These improvements have resulted in a considerable increase in the produce carried by the Great Western Railway. There is no doubt that they will mean an important advantage to the peasants and farmers of Brittany. Also it seems that it is time that home-producers pulled themselves together and organised their methods of marketing, and then demanded equal, if not improved, facilities for getting their produce to market.

TABLE OF PRICES REALISED FOR HOME, COLONIAL, AND FOREIGN POULTRY,
GAME, AND EGGS FOR THE FOUR WEEKS ENDING AUGUST 13, 1910.

ENGLISH POULTRY—LONDON MARKETS.

DESCRIPTION.	1st Week. Each.	2nd Week. Each.	3rd Week. Each.	4th Week. Each.	COUNTRIES OF ORIGIN.				PRICES REALISED DURING THE MONTH.			
					Chickens. Each.	Ducks. Each.	Ducklings. Each.	Geese. Per lb.	Turkeys. Per lb.			
Surrey Chickens	2/9 to 5/0	2/6 to 5/0	2/3 to 4/0	2/3 to 4/0								
Sussex "	2/9 " 5/0	2/6 " 5/0	2/3 " 4/0	2/3 " 4/0	Russia							
Yorkshire "	2/0 " 4/0	3/0 " 3/6	1/9 " 3/0	1/9 " 3/0	Belgium							
Boston "	2/0 " 4/0	3/0 " 3/6	1/6 " 3/0	1/9 " 3/0	France							
Essex "	2/0 " 4/0	2/0 " 3/6	1/6 " 3/0	1/9 " 3/0	United States of America							
Capon	4/6 " 4/6	5/6 " 3/6	4/6 " 3/6	4/6 " 3/6	Austria							
Irish Chickens	2/0 " 3/3	1/9 " 3/3	1/3 " 2/6	1/3 " 2/6	Canada							
Liv. Hens	1/6 " 2/3	1/3 " 2/3	1/0 " 1/9	1/0 " 1/9	Australia							
Aylesbury Ducklings..	—	—	—	—								
Ducks	2/0 " 3/3	2/0 " 3/3	1/9 " 2/9	2/0 " 3/0								
Geese	5/0 " 6/6	5/0 " 6/6	5/0 " 6/6	5/0 " 6/6								
Turkeys, English	—	—	—	—								
Poussins	1/2 " 1/6	1/2 " 1/6	1/2 " 1/4	—								

FOREIGN POULTRY—LONDON MARKETS.

DESCRIPTION.	1st Week. Each.	2nd Week. Each.	3rd Week. Each.	4th Week. Each.	COUNTRIES OF ORIGIN.				PRICES REALISED DURING THE MONTH.			
					Chickens. Each.	Ducks. Each.	Ducklings. Each.	Geese. Per lb.	Turkeys. Per lb.			
Surrey Chickens	2/9 to 5/0	2/6 to 5/0	2/3 to 4/0	2/3 to 4/0	Russia							
Sussex "	2/9 " 5/0	2/6 " 5/0	2/3 " 4/0	2/3 " 4/0	Belgium							
Yorkshire "	2/0 " 4/0	3/0 " 3/6	1/9 " 3/0	1/9 " 3/0	France							
Boston "	2/0 " 4/0	3/0 " 3/6	1/6 " 3/0	1/9 " 3/0	United States of America							
Essex "	2/0 " 4/0	2/0 " 3/6	1/6 " 3/0	1/9 " 3/0	Austria							
Capon	4/6 " 4/6	5/6 " 3/6	4/6 " 3/6	4/6 " 3/6	Canada							
Irish Chickens	2/0 " 3/3	1/9 " 3/3	1/3 " 2/6	1/3 " 2/6	Australia							
Liv. Hens	1/6 " 2/3	1/3 " 2/3	1/0 " 1/9	1/0 " 1/9								
Aylesbury Ducklings..	—	—	—	—								
Ducks	2/0 " 3/3	2/0 " 3/3	1/9 " 2/9	2/0 " 3/0								
Geese	5/0 " 6/6	5/0 " 6/6	5/0 " 6/6	5/0 " 6/6								
Turkeys, English	—	—	—	—								
Poussins	1/2 " 1/6	1/2 " 1/6	1/2 " 1/4	—								

ENGLISH GAME—LONDON MARKETS.

DESCRIPTION.	1st Week. Each.	2nd Week. Each.	3rd Week. Each.	4th Week. Each.	COUNTRIES OF ORIGIN.				PRICES REALISED DURING THE MONTH.			
					Black Game	Hazel Hens	Black Game	Game	Poultry	£10		
Grouse	— to —	— to —	— to —	— to —	Parmigan	—	—	—	—	—		
Partridges	— to —	— to —	— to —	— to —	Partridges	—	—	—	—	—		
Pheasants	—	—	—	—	Quail	—	—	—	—	—		
Black Game	—	—	—	—	Bordeaux Pigeons	—	—	—	—	—		
Hares	—	—	—	—	Hares	—	—	—	—	—		
Rabbits, Tame	1/0 " 2/0	—	—	—	Rabbits	—	—	—	—	—		
Pigeons, Tame	0/4 " 1/0	0/4 " 0/11	0/4 " 0/11	1/0	Pheasants	—	—	—	—	—		
" Wild	—	—	—	—	—	—	—	—	—	—		
Wild Duck	—	—	—	—	—	—	—	—	—	—		
Woodcock	—	—	—	—	—	—	—	—	—	—		
Snipe	—	—	—	—	—	—	—	—	—	—		
Plover	—	—	—	—	—	—	—	—	—	—		

IRISH EGGS.

DESCRIPTION.	1st Week. Per 120.	2nd Week. Per 120.	3rd Week. Per 120.	4th Week. Per 120.	COUNTRIES OF ORIGIN.				PRICES REALISED DURING THE MONTH.			
					Irish Eggs	8/6 to 9/6	9/0 to 10/0	9/3 to 9/9	Country	Quantities in Gt. Hund.	Declared Values.	
Irish Eggs	8/6 to 9/6	9/0 to 10/0	9/3 to 9/9	—	—	—	—	—	—	—	—	

ENGLISH EGGS.

MARKETS.	Per 120.	Per 120.	Per 120.	Per 120.	COUNTRIES OF ORIGIN.				PRICES REALISED DURING THE MONTH.			
					French	Danish	Italian	Austrian	Russian	Australian	Canadian	
LONDON	10/0 to 11/8	10/6 to 11/9	10/6 to 12/6	10/9 to 12/6	8/6 to 10/0	8/0 " 10/6	8/0 " 10/6	8/0 " 10/6	8/0 " 9/6	8/0 " 10/6	8/0 " 10/6	£259,982
Provinces	Eggs per 1/-	Eggs per 1/-	Eggs per 1/-	Eggs per 1/-	8/3 " 10/3	8/9 " 10/0	8/6 " 10/0	8/6 " 10/0	8/6 " 9/6	8/6 " 10/0	8/6 " 10/0	147,314
MANCHESTER	10 to 12	10 to 12	10 to 12	10 to 12	10 to 12	10 to 12	10 to 12	13,328				
BRISTOL	—	—	—	—	—	—	—	—	—	—	—	4,698

Tota ls..... £394,037

£501,938

IMPORTS OF POULTRY AND GAME.

COUNTRIES OF ORIGIN.				PRICES REALISED DURING THE MONTH.			
Game	Poultry	£10	£60	Game	Poultry	£10	£60
Russia	—	—	—	—	—	—	—
Belgium	—	—	—	—	—	—	—
France	—	—	—	—	—	—	—
United States of America	—	—	—	—	—	—	—
Other Countries	—	—	—	—	—	—	—
Totals	£94	£13,083	—	—	—	—	—

MONTH ENDED JULY 31, 1910.

IMPORTS OF EGGS.

COUNTRIES OF ORIGIN.				PRICES REALISED DURING THE MONTH.			
1st Week.	2nd Week.	3rd Week.	4th Week.	1st Week.	2nd Week.	3rd Week.	4th Week.
French	8/6 to 10/0	8/0 to 9/6	8/0 to 9/6	8/0 " 9/6	8/0 " 10/6	8/0 " 10/6	8/0 " 10/6
Danish	8/3 " 10/3	8/9 " 10/0	8/6 " 10/0	8/6 " 9/6	8/6 " 10/6	8/6 " 10/6	8/6 " 10/6
Italian	9/0 " 10/3	8/9 " 10/0	8/6 " 10/0	8/6 " 9/6	8/6 " 10/6	8/6 " 10/6	8/6 " 10/6
Austrian	6/3 " 8/3	8/3 " 9/3	8/3 " 9/3	8/0 " 5/9	8/0 " 5/9	8/0 " 5/9	8/0 " 5/9
Russian	6/0 " 7/3	6/0 " 7/3	6/0 " 7/3	5/9 " 5/9	5/9 " 5/9	5/9 " 5/9	5/9 " 5/9
Australian	—	—	—	—	—	—	—
Canadian	—	—	—	—	—	—	—

MONTH ENDED JULY 31, 1910.

IMPORTS OF EGGS.

COUNTRIES OF ORIGIN.				PRICES REALISED DURING THE MONTH.			
1st Week.	2nd Week.	3rd Week.	4th Week.	1st Week.	2nd Week.	3rd Week.	4th Week.
Russia	—	—	—	—	—	—	—

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BIBLIOGRAPHY OF POULTRY.

COMPILED BY EDWARD BROWN, F.L.S.

Compiler's Note.—With the object of securing as complete a list as possible of Poultry Books, it is proposed to give from time to time particulars as to such as are known. My own library embraces nearly 350 volumes on this subject, but there must be many not contained therein. I beg respectfully to request the kindly co-operation of owners of books not named, with a view to making the list exhaustive. In sending particulars I request that the following be stated: (1) Full title, and sub-title, if any; (2) Author's complete name, with any information respecting the writer; (3) Place of publication and name of publisher; (4) Date of publication, if given; (5) Number of edition; (6) Number of pages and size of book; (7) If illustrated; and (8) Whether in paper or cloth. Acknowledgment will be made of source of information. The books marked with an asterisk I have not been able to verify, and fuller details will be welcome both as to books and authors.

LIST No. 10 (Continued from page 603, August, 1910).

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[Reprint of Articles in *Farm Life*, claiming to tell how to realise a profit of £50 per annum from 100 laying hens.]

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INVESTIGATIONS CONCERNING INFECTIOUS DISEASES AMONG POULTRY. Washington, D.C.: Bureau of Animal Industry, 90 pp., illustrated, paper cover. 1895. 8vo.

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***STANDARD AND COMMERCIAL POULTRY CULTURE BY ARTIFICIAL PROCESS; OR, HOW TO MAKE POULTRY CULTURE PROFITABLE.** Chicago, Ill., U.S.A.: American Poultry Journal, 185 pp. 1885. 12mo.

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REPORT ON THE VALE OF AYLESBURY. London: Eyre and Spottiswoode (C. 7691), 48 pp. paper cover. 1895. fcp.

[Contains Report to the Royal Commission on Agriculture, 1894-6, as to Duck-Rearing in Bucks.]

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— Second Edition. 1900.

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Stiles, Ch. Wardell, A.M., Ph.D.

TAPEWORMS OF POULTRY. Washington, D.C.: U.S. Department of Agriculture, 88 pp. paper cover. 1896. 8vo.

Stoddard, H. H. (Editor of the *Poultry World*).

THE BOOK OF THE BANTAMS. A Brief Treatise upon the Mating, Rearing, and Management of the Different varieties of Bantams. Hartford, Conn., U.S.A.: The Author, 58 pp., illustrated, paper cover. 1886. 12mo.

THE LIGHT BRAHMAS, FROM THE SHELL TO THE EXHIBITION ROOM. Hartford, Conn., U.S.A.: The Author, 64 pp., illustrated, paper cover. 1885. 12mo.

DOMESTIC WATERFOWL: DUCKS, GEESE, AND SWANS; HOW TO REAR AND MANAGE THEM. Hartford, Conn., U.S.A.: The Author, 72 pp., illustrated, paper cover. 1885. 12mo.

AN EGG FARM. The Management of Poultry in Large Numbers. New York: Orange Judd Co., 95 pp., illustrated. 1876. 12mo.

[Reprinted from the *American Agriculturist*.]

BOOK OF THE DORKING. A Brief Monograph upon the Origin, Varieties, Breeding, and Management. Hartford, Conn., U.S.A.: The Author, 58 pp., illustrated, paper cover. 1880. 12mo.

HOW TO FEED FOWLS. A Treatise on the Proper Foods for Poultry from the Shell to Maturity, for Laying or Breeding Stock, and for Exhibition or Market Purposes. Hartford, Conn., U.S.A.: The Author, 48 pp., paper cover. 1882. 12mo.

THE BOOK OF THE GAMES. A Brief Treatise upon the Mating, Rearing, and Management of the Different Varieties of Games. Hartford, Conn., U.S.A.: The Author, 63 pp., illustrated, paper cover. 1886. 12mo.

INCUBATION: NATURAL AND ARTIFICIAL. Hartford, Conn., U.S.A.: The Author, 103 pp., illustrated, paper cover. 1884. 16mo.

THE BROWN LEGHORNS: HOW TO MATE, REAR, AND JUDGE THEM. Hartford, Conn., U.S.A.: The Author, 48 pp., paper cover. 1879. 12mo.

THE WHITE LEGHORNS FROM THE SHELL TO THE EXHIBITION ROOM. Hartford, Conn., U.S.A.: The Author, 48 pp., paper cover. 1884. 12mo.

THE PLYMOUTH ROCKS: HOW TO MATE, REAR, AND JUDGE THEM. Hartford, Conn., U.S.A.: The Author, illustrated, paper cover. 1883. 12mo.

POULTRY DISEASES: THEIR PREVENTION AND CURE. Hartford, Conn., U.S.A.: The Author, 72 pp., illustrated, paper cover. 1887. 12mo.

HOW TO PRESERVE EGGS. Hartford, Conn., U.S.A.: The Author, 48 pp., paper cover. 1885. 12mo.

HOW TO WIN POULTRY PRIZES. Hartford, Conn., U.S.A.: The Author, 56 pp., illustrated, paper cover. 1885. 12mo.

THE WYANDOTTES FOR THE FANCIER AND GENERAL USE. Hartford, Conn., U.S.A.: The Author, 48 pp., illustrated, paper cover. 1885. 12mo.

POULTRY ARCHITECTURE: HOW TO BUILD HANDSOME AND CONVENIENT FOWL-HOUSES DURABLY AND ECONOMICALLY. Hartford, Conn., U.S.A.: The Author, 56 pp., illustrated, paper cover. 1882. 8vo.

(To be continued.)

POULTRY INSTITUTE AT KILMARNOCK.

THE Report of the Departmental Committee on Poultry-Breeding in Scotland is bearing fruit in many directions, as readers of the POULTRY RECORD know. The West of Scotland Agricultural College has given considerable attention to poultry, more especially at its Poultry Farm, Kilmarnock, which on August 13 was the venue of what may be regarded as the first Poultry Institute in Great Britain, and upon the success of which Mr. Wil Brown, the recently appointed Director of Poultry Husbandry, may be warmly congratulated. The weather was fine, the attendance large, the interest great, and visitors were present from many parts of Western Scotland, who had the opportunity of listening to three addresses, of seeing demonstrations in testing eggs for market, caponising chickens, and the dressing and trussing of table-poultry by Mr. Wil Brown and Miss Kinross, manager of the farm.

Mr. Wil Brown spoke on the Poultry Industry in South-Western Scotland, and after showing the opportunities for extended production, said that the work of the department was divided into three branches. The first of these was teaching, and, with the extended equipment which would shortly be available, the farm would be one of the best for teaching purposes in Great Britain. The second branch was experimental work, which would not only be carried out at the farm, but the department hoped to have the co-operation of farmers in all parts of the contributory counties, so that such experiments could be conducted both at the farm and elsewhere. The third branch was external work, in connection with which lectures would be given in various districts, in addition to which the members of the staff were ready to visit any farmer and give advice on his own land, and a cordial invitation was given for farmers to apply in cases of difficulty or before they extended their poultry work. As an indication of the need for such advice, Mr. Brown said that since coming to Holmes Farm he had made post-mortem examinations of a large number of birds sent in by farmers, and with one exception they had died from liver disease.

Addressés were given by Mr. Edward Brown, F.L.S., Hon. Sec. of the National Poultry Organisation Society, on the requirements of the egg and poultry market, in which it was stated that Glasgow and the surrounding district consumed annually these products to the value of £750,000, of which two-thirds were imported, so that there was a large and lucrative outlet at hand; and, also, on the advantages of co-operation.

At intervals the visitors had the opportunity of seeing the stock and equipment. The Institute was a great success, and we hope to see the example set at Kilmarnock followed throughout the country.

NORTHERN UTILITY POULTRY SOCIETY.

THE tender of Mr. C. George Skipper, of Burnley, has been accepted by the Committee for conducting the annual Four Months' Laying Competition, full particulars of which will be sent out later.

In the meantime I am requested to ask any member willing to offer special prizes to do so as early as possible, so that final arrangements can be made before the end of the present month. Any suggestions you may wish to make will be carefully considered.

The Competition will be run on similar lines to that of last year. Trap-nests will be used, and records of each individual bird will be kept. Reports will be published in the papers each month and a detailed report will be issued at the close. I may say that I have consented to again act as secretary for the Competition, and trust you will do what you can to help me to make it a success.

C. LONGBOTTOM,
Hon. Secretary.

28, St. Matthew Street, Burnley.
August 12, 1910.

INDIAN RUNNER DUCK CLUB.

IN presenting their annual report the committee are glad to say that the financial condition of the club is better than last year, as will be seen from the balance-sheet, showing £6 6s. 5d. against £1 17s. 8d., which we commenced the year with.

As in the past, we have striven to induce judges and show committees to observe the standard. Abundant applications from all parts continue to be received for support and specials, but the club's funds do not warrant too great liberality in this direction, and it is the earnest endeavour of your committee to carry on the club with the greatest economy and care, consistent with efficiency.

The challenge cups subscribed for have been purchased, and will be competed for at the Crystal Palace by members of the club only.

The office-bearers nominated and elected for 1910-11 are:
PRESIDENT.—Captain L. G. Freeland.
VICE-PRESIDENT.—Mr. M. Smith.
COMMITTEE.—Messrs. J. T. Dodd, J. Donald, sen., J. Swale, J. Thomlinson.

HON. AUDITOR AND SCRUTINEER.—Mr. J. Pettipher.
HON. SECRETARY AND TREASURER.—Mr. J. W. Walton.
The subscriptions are now due, and members are asked to remit same at once.

J. W. WALTON,
Tow Law, Co. Durham.
Hon. Secretary.

TRADE NOTICES.

Mr. W. H. Cook's Exports.

During the past few weeks William H. Cook, of the Model Poultry Farm, St. Paul's Cray, Kent, has shipped the following birds and eggs to clients abroad: One pen each of Silver Wyandottes, Black, Buff, and Jubilee Orpingtons, to Gironde, France; one pen of Cuckoo Orpingtons to Oisne, France; six Jubilee and six Black Orpington chickens, to Paderborn, Germany; eighteen Aylesbury and eighteen Rouen ducks, two pens each of Barred Rocks, Light Brahmans, White Orpingtons, Partridge Wyandottes and Minorcas, to Singapore, per ss. Kanagawa Maru; eight Buff Leghorn pullets, to Lausanne, Switzerland; one pen each of the following, per ss. Amazon, to Rio Janeiro: White and Barred Rocks, White, Buff, Black, and Blue Orpingtons, Blue Wyandottes, Dark Brahmans, and Black Rosecomb Bantams, six Buff, six Black, and six White Orpington chickens, to Copenhagen; Blue Orpington duck and drake and one Minorca cockerel and pullet, per ss. Tagus, to the order of Dr. Rodrigues, Oporto; one pen of White Orpingtons, per ss. Asturias, to Buenos Aires; a trio each of White and Silver Wyandottes, Black Langshans, Barred Rocks, White, Jubilee, Spangled, Black, and Buff Orpingtons, to the order of M. A.

THE ILLUSTRATED POULTRY RECORD

NUMBER 1

OCTOBER, 1909.

VOLUME II

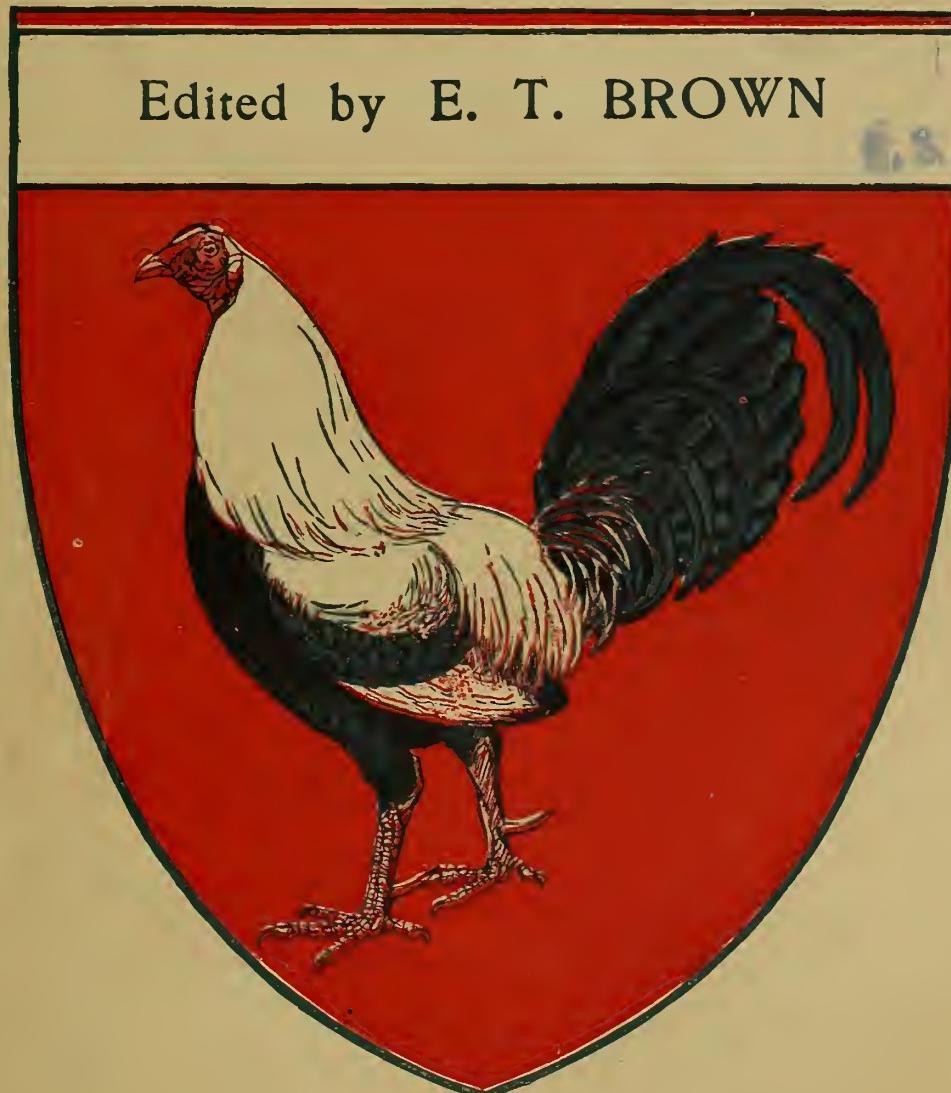
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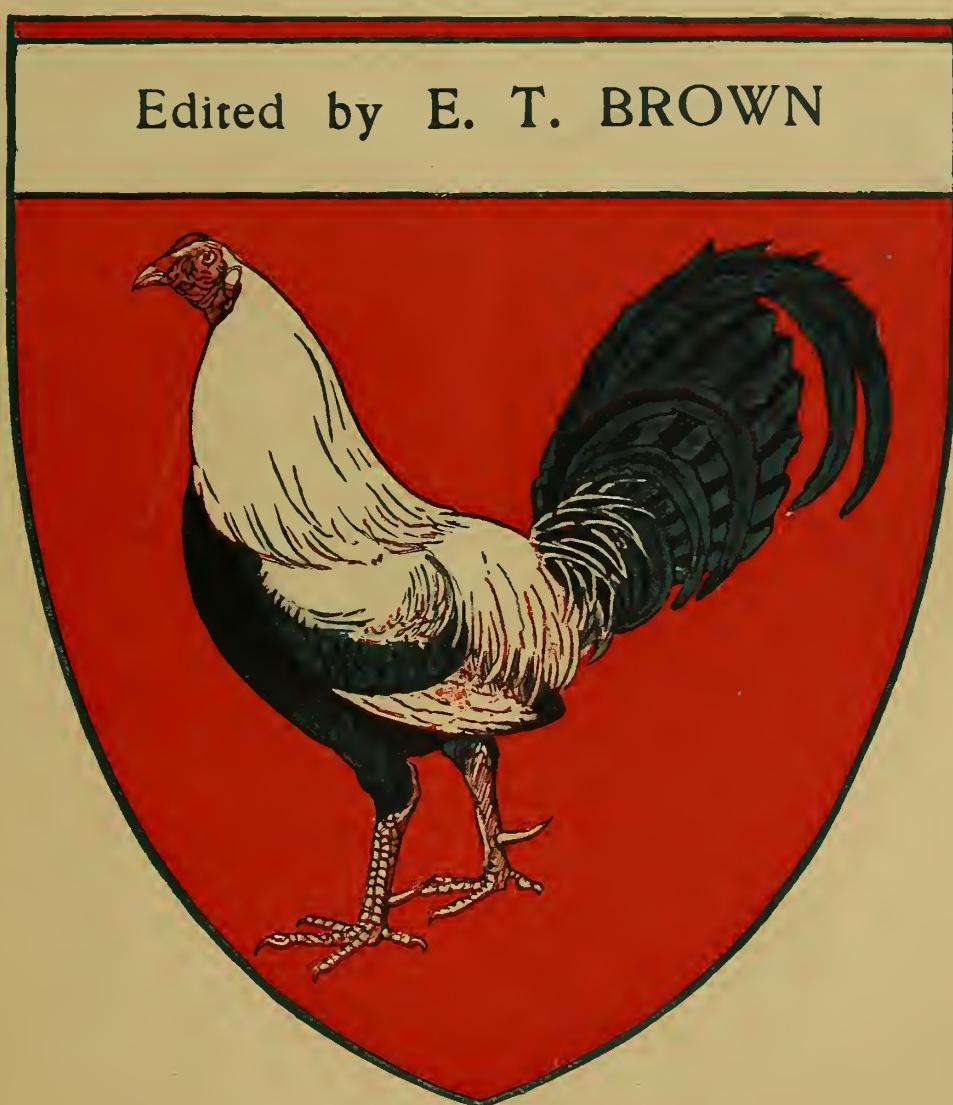
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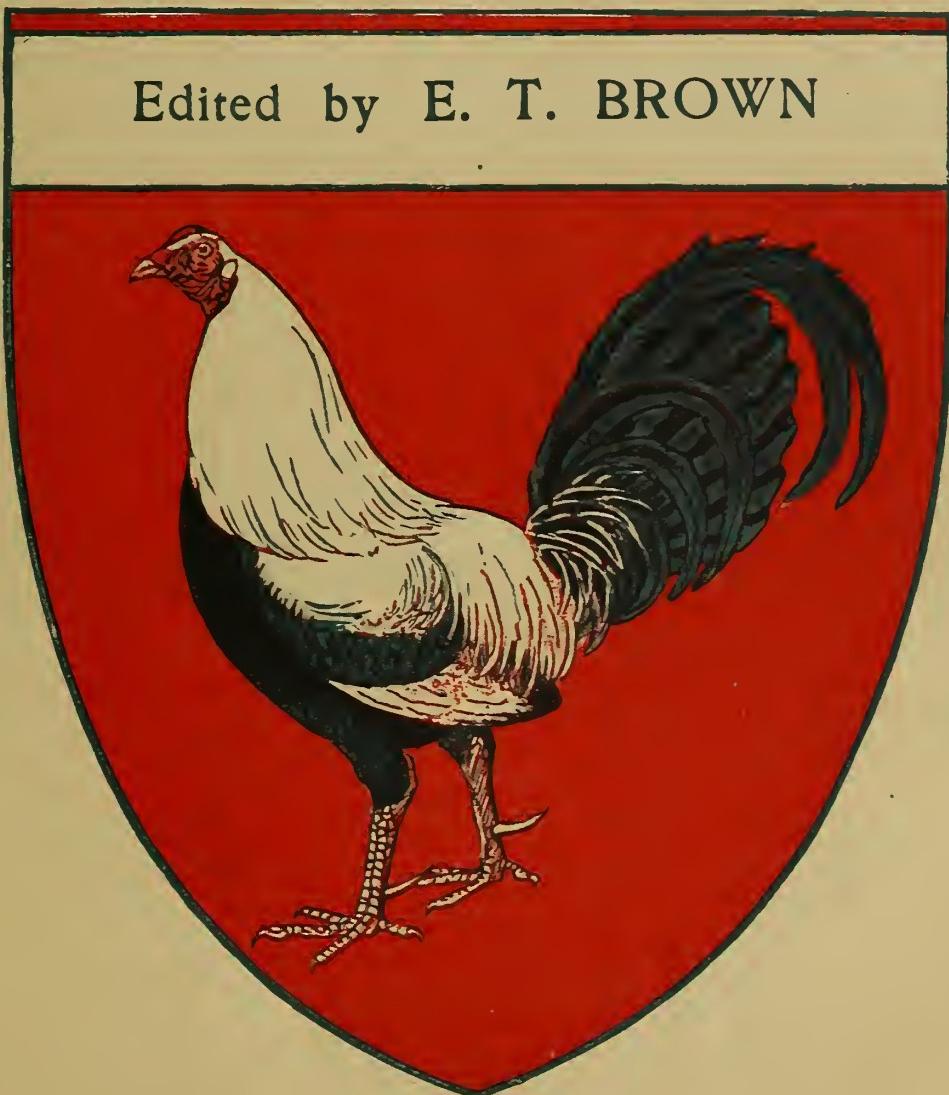
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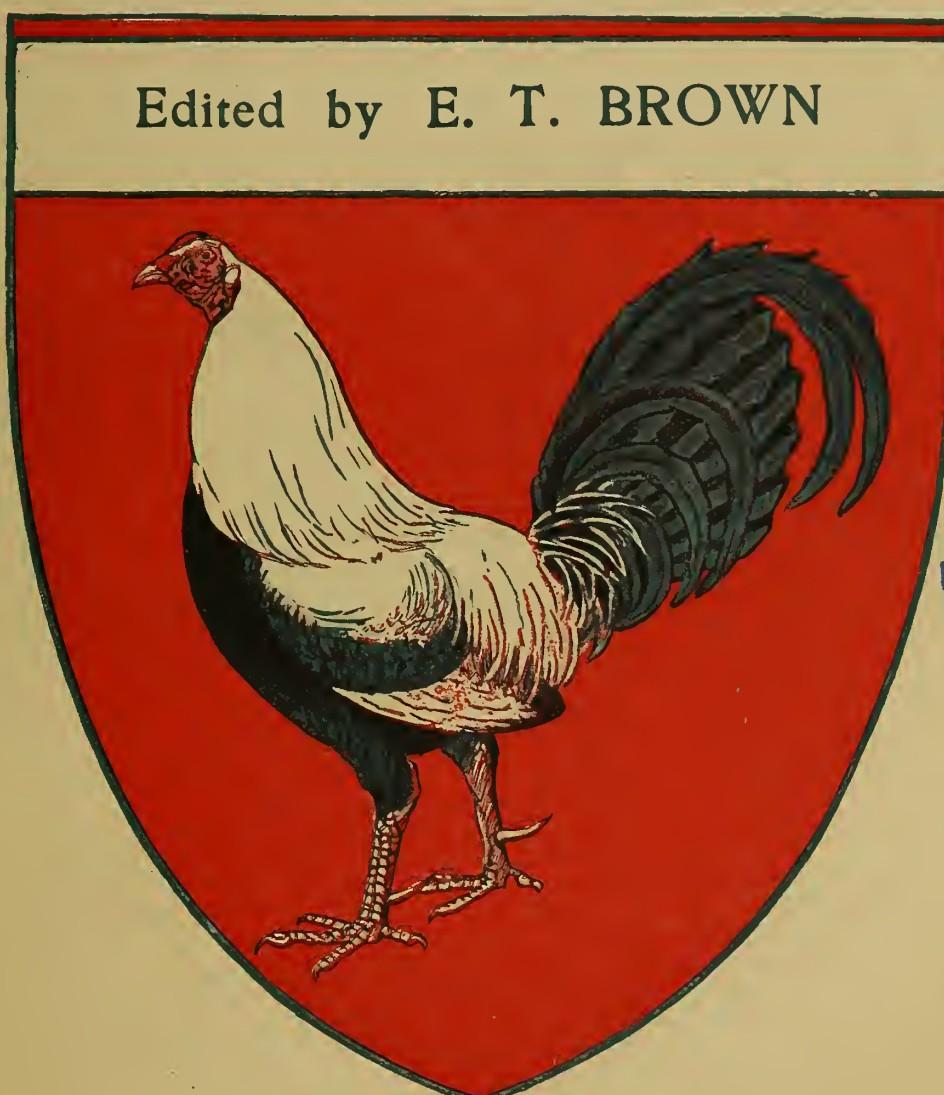
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Jubilee ..	2 2 0	1 1 0	10 0
White ..	2 2 0	1 1 0	10 0
Spangled	2 2 0	1 1 0	10 0
Blue ..	5 5 0	No Second Pen.	
Buff Ducks	1 1 0	10 0	—

WYANDOTTES.

Silver ..	1 1 0	10 0	—
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White ..	1 1 0	10 0	—
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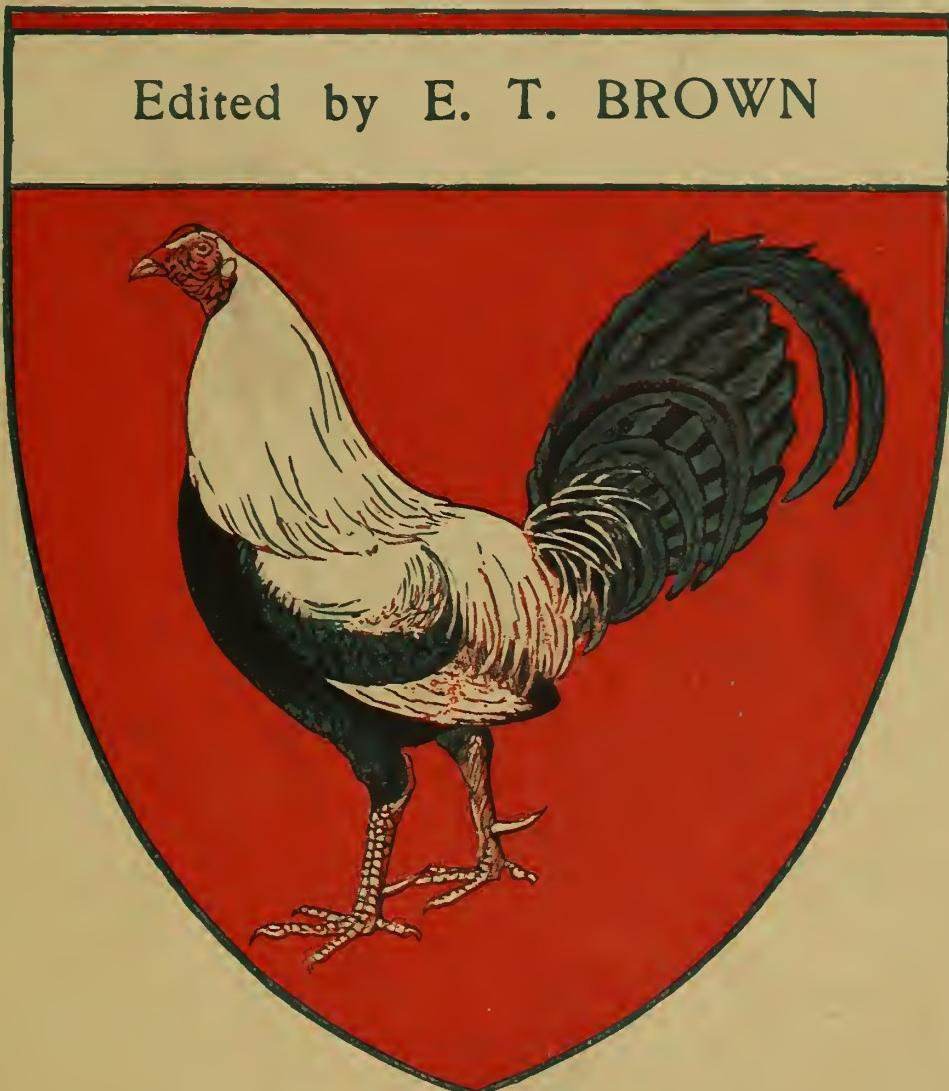
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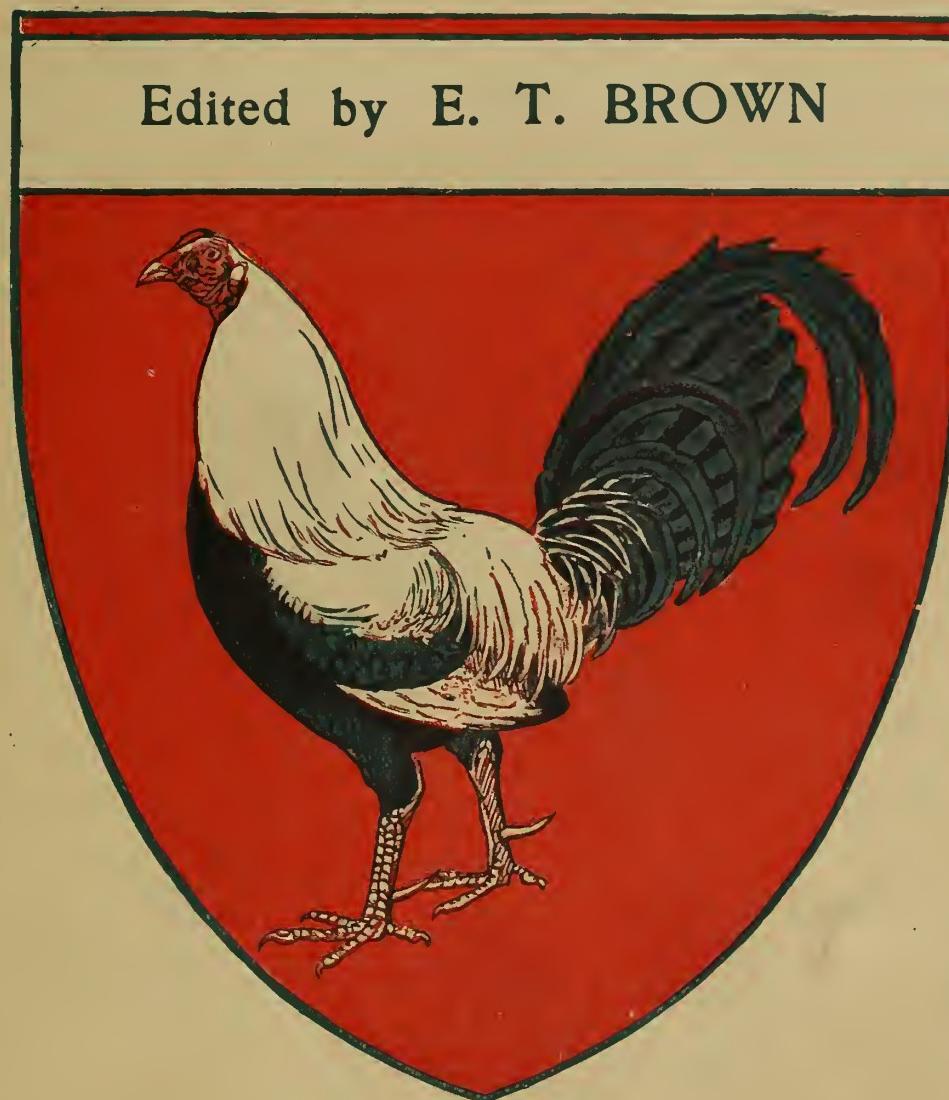
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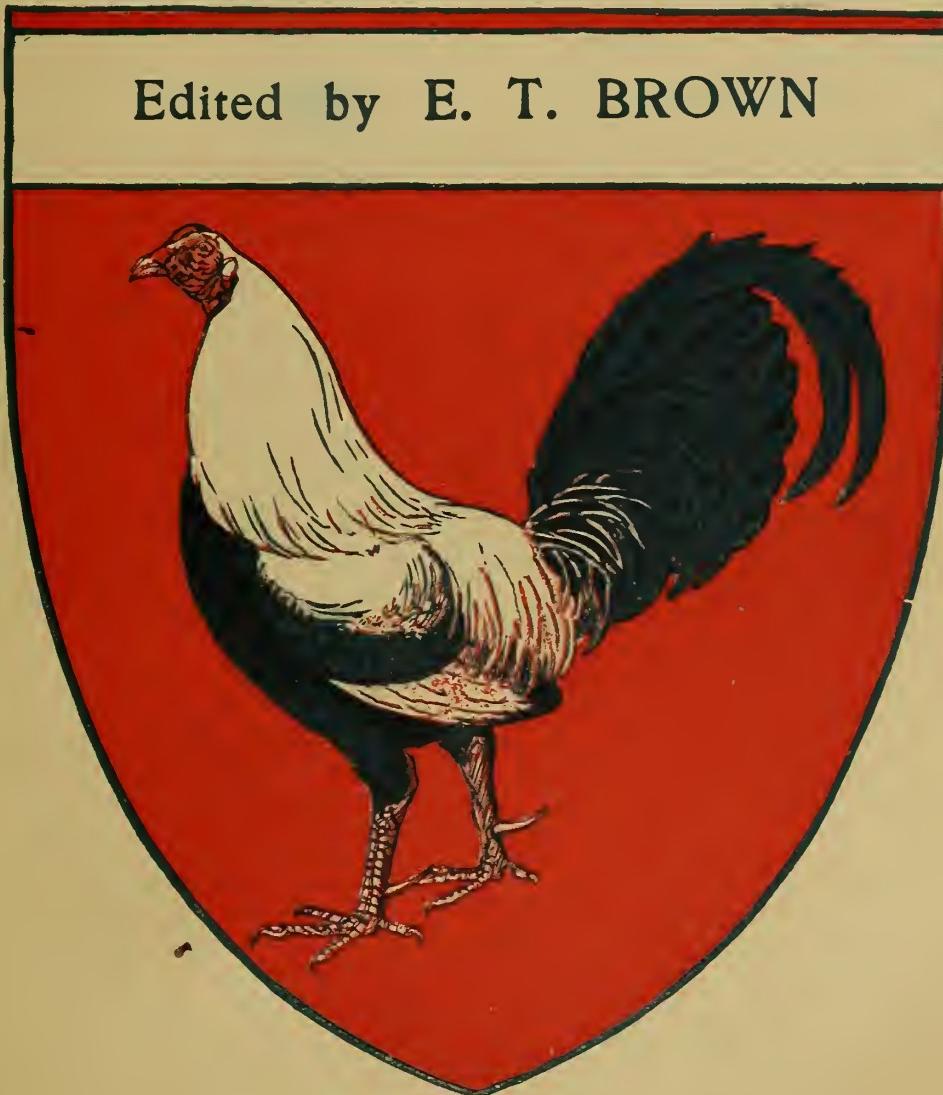
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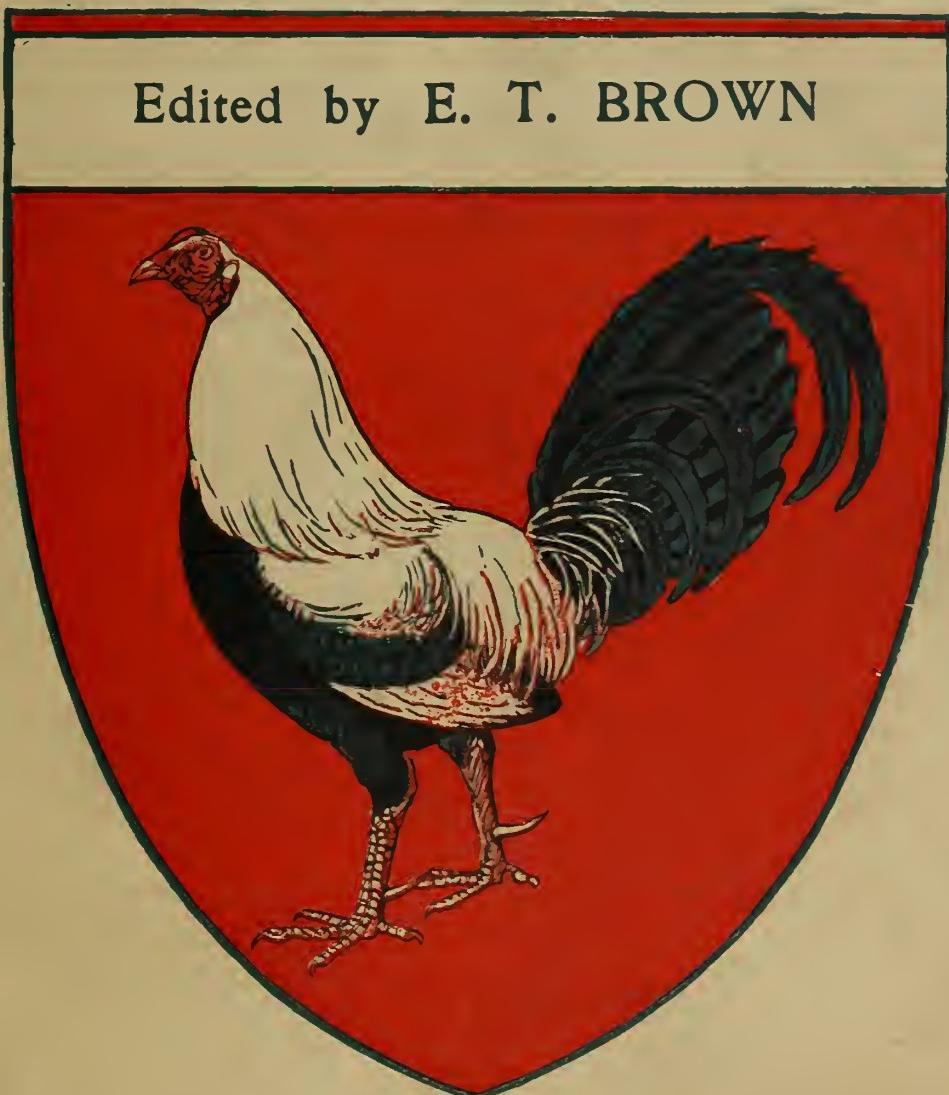
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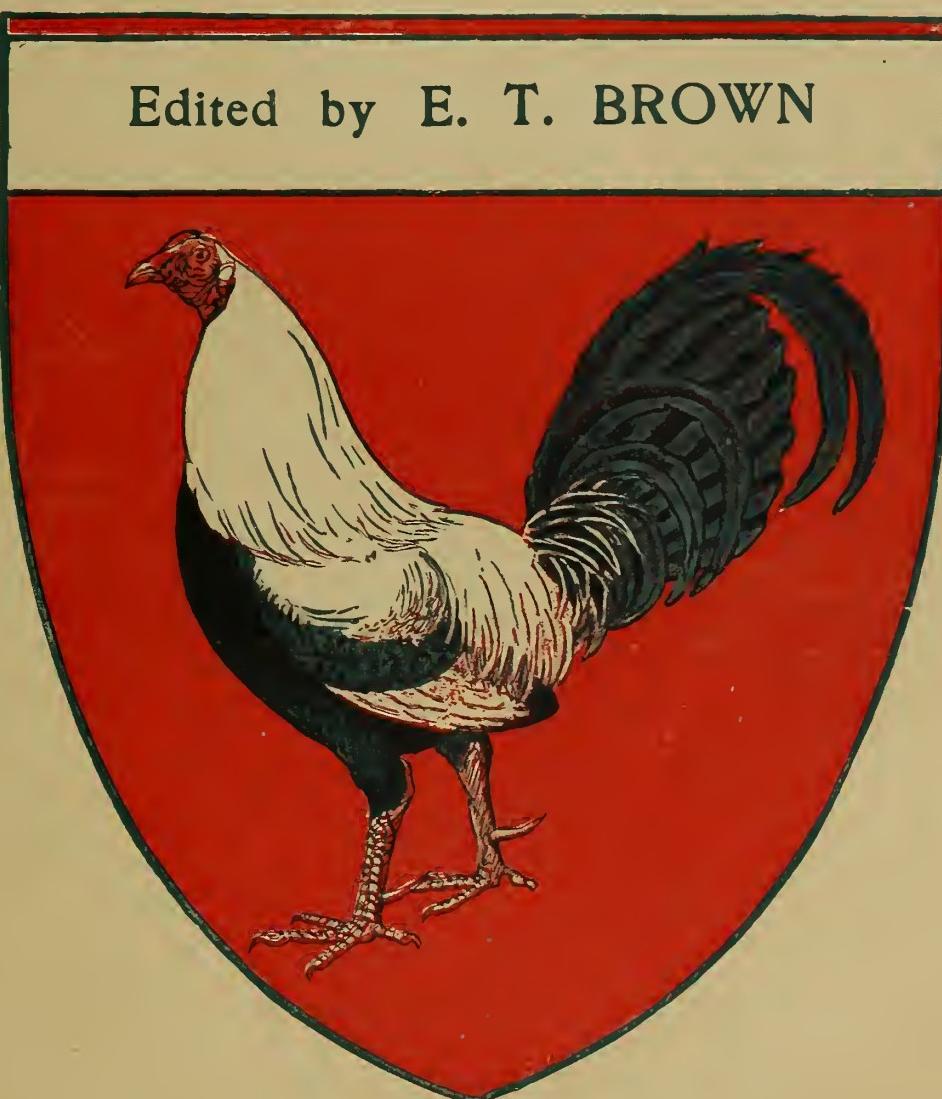
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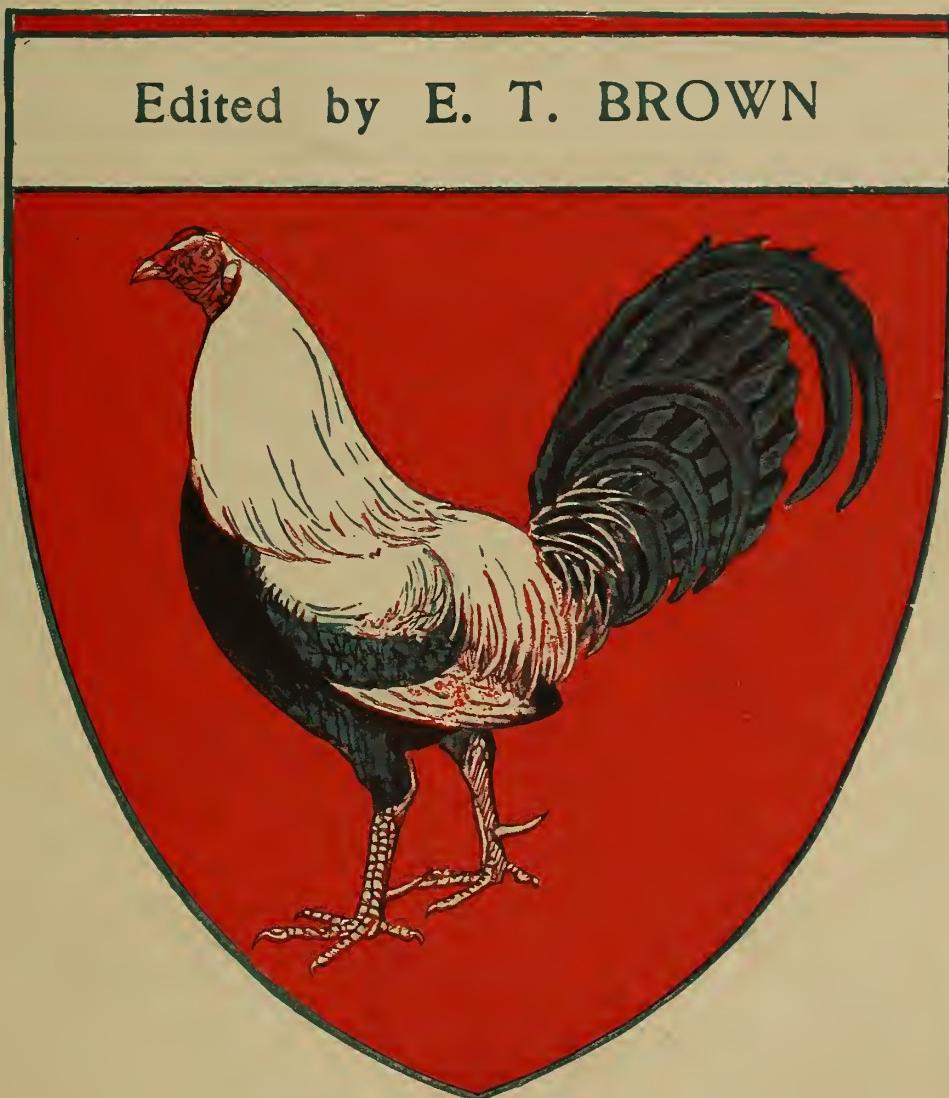
THE ILLUSTRATED POULTRY RECORD

NUMBER 10

JULY, 1910.

VOLUME II

Edited by E. T. BROWN



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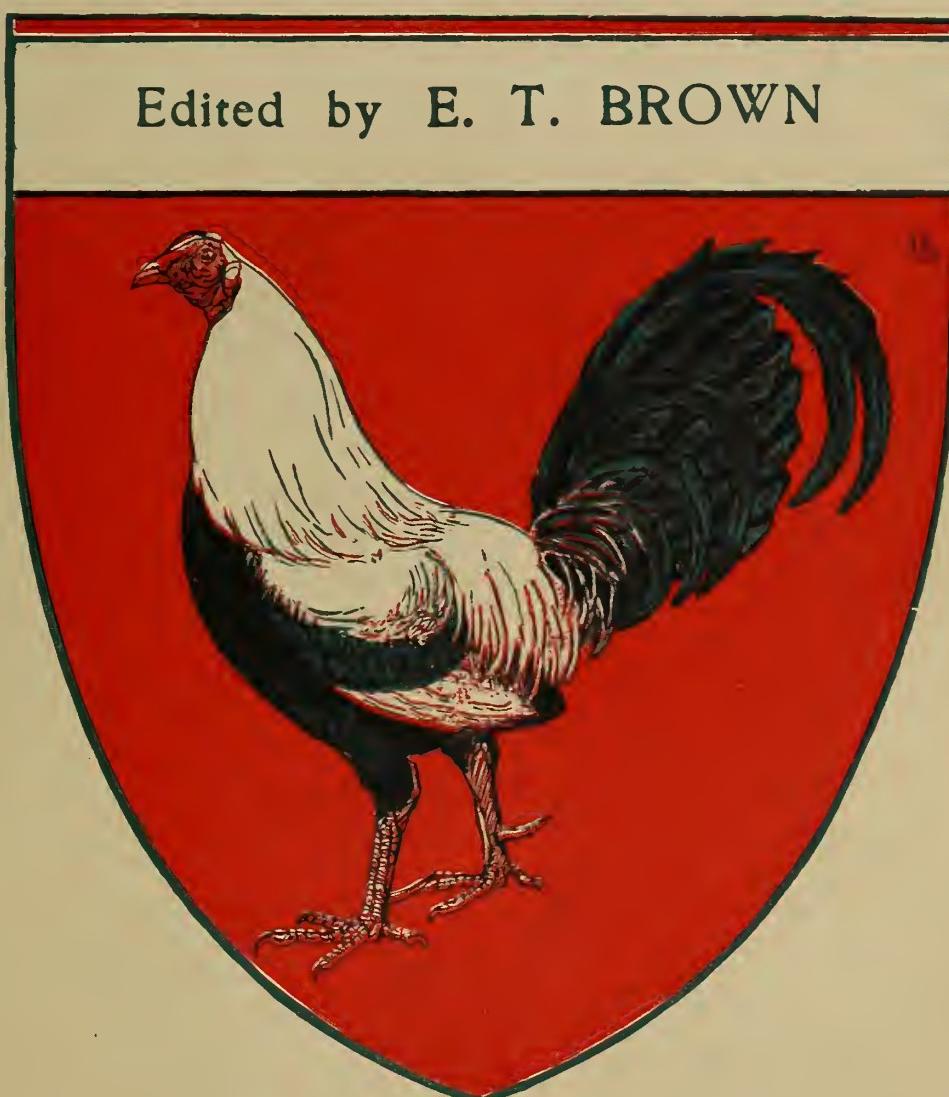
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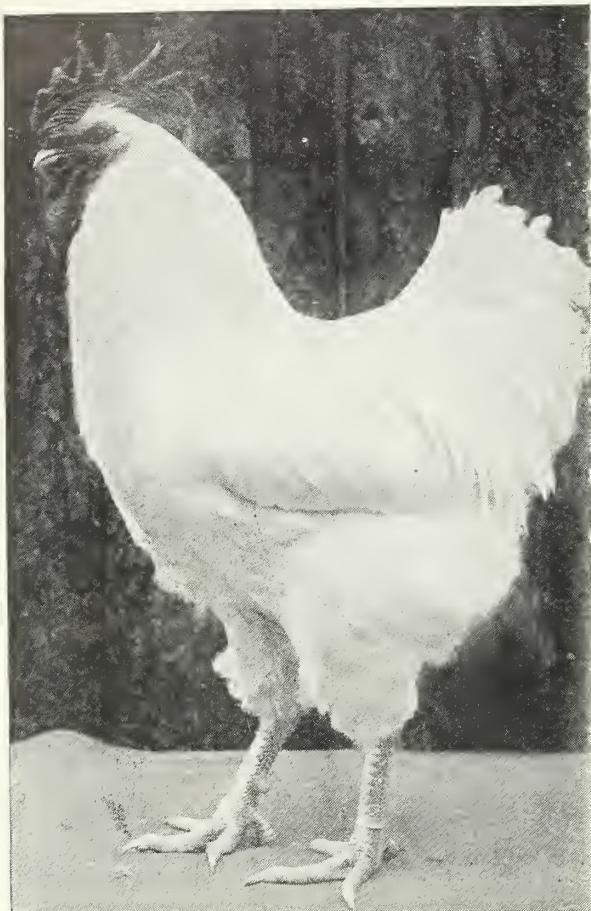
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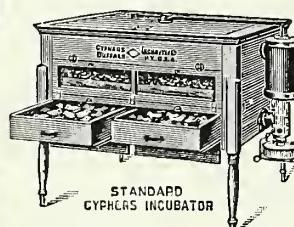
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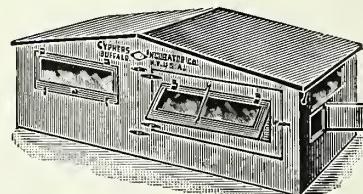


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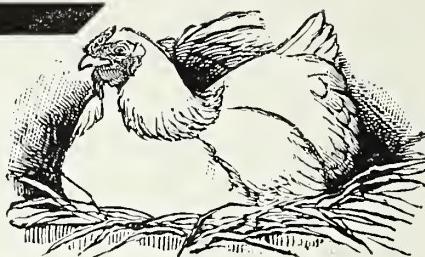
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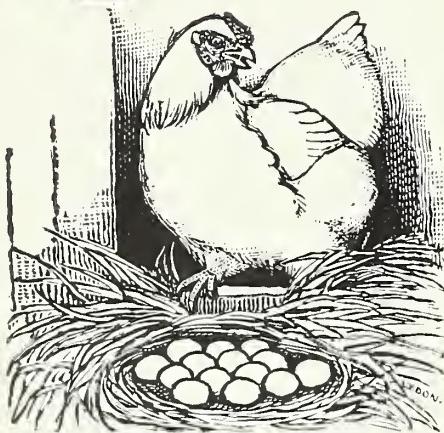
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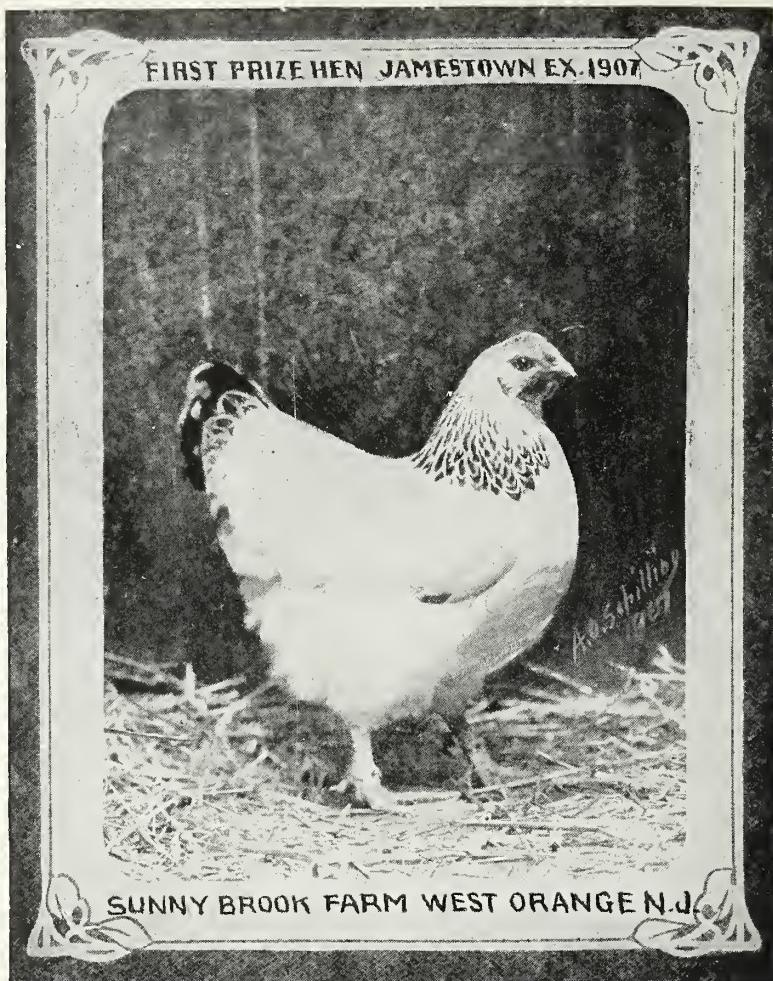
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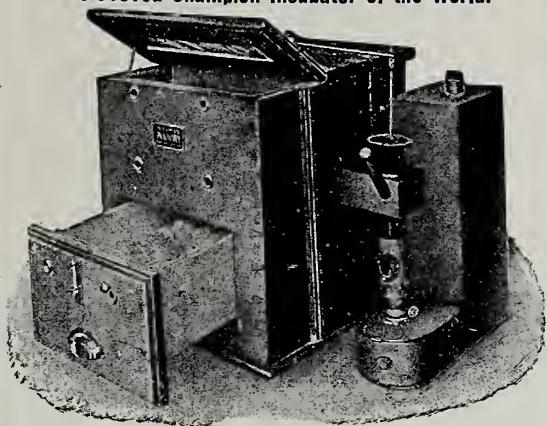
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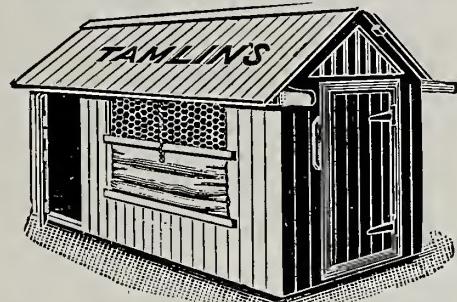
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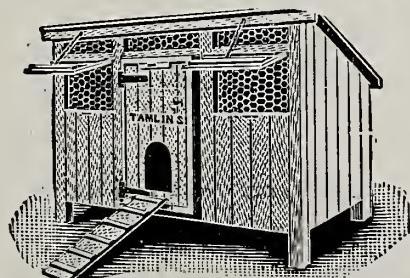
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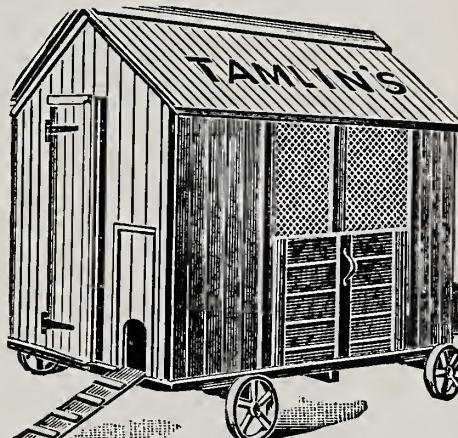


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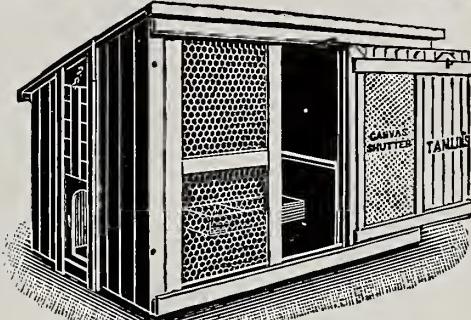


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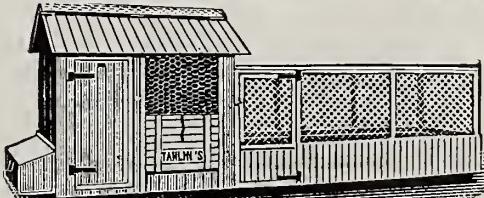
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Jarasse, of Paris, for South America; one Buff Orpington cockerel and four pullets, to Massachusetts, U.S.A. through the American Express Co.; two Andalusian cockerels, four pullets, one Buff Orpington cockerel, and four pullets, four pairs of Pigmy Pouter pigeons, to Singapore, per ss. Kitana Maru; two Black Orpington cocks, per R.M.S. Saxon, to Algoa Bay; a pair of Blue Orpington ducks, to Mentone, France. A large number of eggs for sitting purposes have also been sent to Portugal, Germany, Capetown, Canada, Switzerland, Liseburg, Belgium, and Italy.

Mr. Tamlin's Exports.

During July, Mr. William Tamlin, 5, St. Margaret's, Twickenham, sent the following appliances abroad: Three 30. three 60, and three 100 incubators, to Oakes and Co., India, per ss. Colaba: one 100 incubator and one 100 foster-mother, to Monte Video, per order of Torrome, Sons and Co., per ss. Evesham; ten 30, ten 60, and ten 100 incubators, to J. F. Marshall, South Africa, per ss. Ingeli; two 60 incubators and one 60 foster-mother, to Valparaiso, order of Negretti and Zambra; one 100 incubator and one 100 foster-mother, to W. T. Shemmin, Rhodesia, per ss. Norman; one 100 incubator and one 100 foster-mother, to R. H. Culverwell, Orange River Colony, per ss. Umlazi: one 100 incubator and one 100 foster-mother, to C. A. Moore, Colombo, per ss. Sicilia; one 60 incubator, to P. T. Dray, Rio de Janeiro, per ss. Amazon; two 100 incubators and one 60 foster-mother, to A. Abrahams, Barbados, per ss. Salybia; one 100 incubator and one 60 foster-mother, to H. Detloff, Boston, U.S.A., per ss. Cambrian: one 60 incubator and one 60 foster-mother, to T. Bonner, Penang, per ss. Syria.

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Vaporite, the chemical powder invented by Mr. G. F. Strawson, and marketed by the Vaporite-Strawson Co., Ltd., of Spencer House, South Place, London, E.C., has long since been proved to be absolutely effective in ridding the land of insect pests which prey upon the crops, the vapour which emanates from it in contact with the soil being absolutely fatal to wireworms and other nuisances which cause farmers such serious loss, but its advantages by no means end there. If a little Vaporite is mixed with limewash used for coating the interior of poultry-sheds and similar buildings, it will prevent insects annoying the stock and keep the place sweet and free from vermin—a very important point which every breeder should note.

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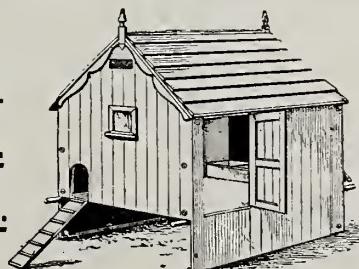
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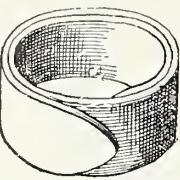
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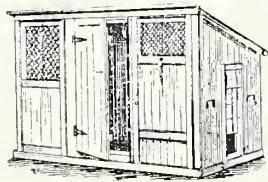
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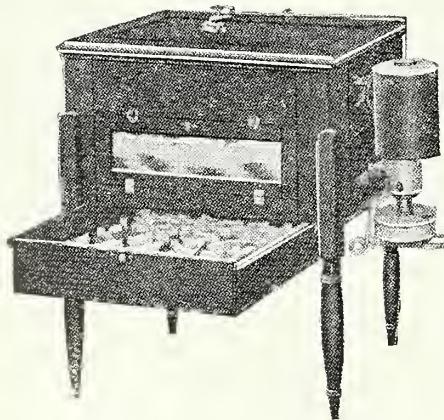
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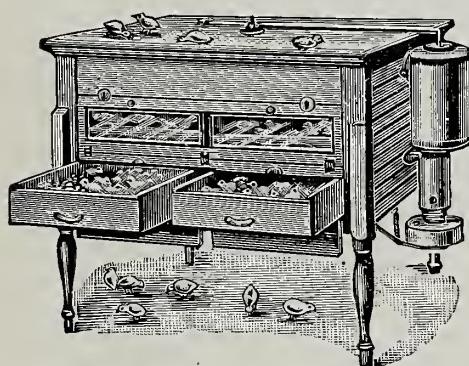
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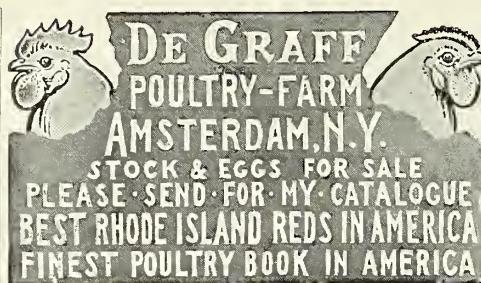
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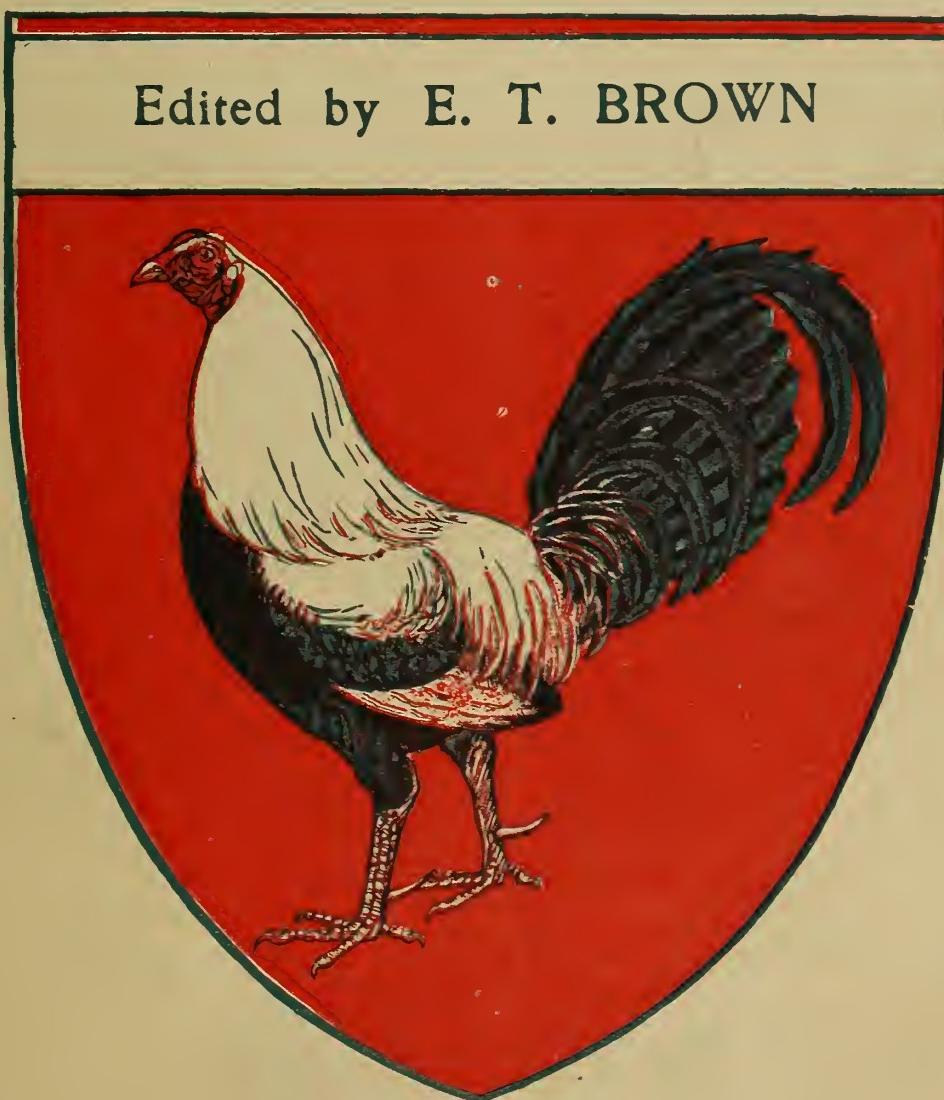
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